rachna program
2001-2006

women and child health at scale

working paper series

paper10

working with existing systems: lessons from inhp

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ship between CARE-India and the ICDS program, and was designed to address child health and nutrition at scale, with the stated impact objectives of helping reduce malnutrition and mortality in children. The project chose to promote a set of technical interventions in antenatal and newborn care, nutrition and immunization, which were known, from global evidence, to be effective. These interventions were already integral to ICDS and RCH programs. The organization structure of INHP-II was designed to provide opportunities for engaging these national programs at sub-district, district, state and national levels. Beginning with a set of best practices from INHP-I, the project used a demonstration-replication approach. This involved local partnerships with NGOs for demonstrating the implementation of these best practices, which were then taken up by ICDS and RCH program functionaries for similar implementation in the rest of the project area. Interventions went to about half the projected scale by the end of the third year of the five year project. Midway through the project, internal assessments strongly indicated that, while activities were proceeding as planned, outcome level changes were not commensurate with the effort, and continuing with similar efforts would not suffice to meet project goals, either in scale or ou
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e-mail : chc@sochara.org

Background

The RACHNA Program

The RACHNA program of CARE India included two USAID-supported projects: the second phase of Integrated Nutrition and Health Project (INHP-II), which focused on child health and nutrition, and the *Chayan* Project, which supported interventions for promoting birth spacing and the prevention of transmission of HIV/AIDS among groups at high risk. INHP-II, built upon the lessons and experiences of the first phase, was implemented in 747 Integrated Child Development Services (ICDS) blocks[1] in 78 districts across nine states[2] from October 2001 to December 2006 to complement the maternal and child health and nutrition (MCHN) efforts of the ICDS and the Ministry of Health and Family Welfare (MoHFW) programs. To achieve its goal of *"sustainable improvements in the nutrition and health status of seven million women and children"*, INHP-II adopted a two-track approach – supporting service providers to improve the quality and coverage of MCHN services and systems and engaging communities to support better infant feeding and caring practices and sustain activities for improved maternal and child health and survival. The implementation was facilitated by small program teams of CARE, located at the district, state and national levels, and working closely with the functionaries of the ICDS program and the programs of the MoHFW, and with a range of partners, including local NGOs and Community-Based Organizations (CBOs). The main strategies were strengthening of existing systems, behavior change communication and capacity building. A detailed description of the program can be found in Paper 1: *Program Description* in this series.

This paper describes how the RACHNA program, mainly INHP-II, engaged the ICDS and RCH programs, with what results, and what lessons were learnt along the way. The paper begins with an overview of the existing public health systems in India, the policy and program environment, and a brief description of the levels at which INHP-II engaged these systems. It then traces the evolution of this engagement, and presents results and lessons that should be of use to other similar efforts, and to the public health systems themselves.[3]

Engagement of Existing Public Health Systems

The programs of the MoHFW and the ICDS have, between them, the largest outreach public health services in the country. Under the RCH program, at least in rural areas, for every three to five thousand people in rural areas, there is one pair[4] of multipurpose health workers (MPHW), male and female, backed up by a network of Primary Health Centers. Recently, the Accredited Social Health Activist (ASHA) cadre of volunteers has been introduced in many states under National Rural Health Mission (NRHM). By design, there is one *Anganwadi* worker (AWW) for every one thousand people under the ICDS program, which is moving towards universal coverage in the country. Apart from these massive structures, however,

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[1] A block is an administrative sub-unit of a district, having a population of around 100,000, and often larger. An ICDS block is usually identical to the administrative block, and comprises about 100 *Anganwadi* Centers (AWC). Not all blocks in a district and not all villages and hamlets within a block may be served by the ICDS program. INHP-II was designed to be implemented only in ICDS-served blocks, but did not necessarily cover all ICDS blocks in the districts where it was implemented.

[2] These include Andhra Pradesh (AP), Bihar (BI), Chhattisgarh (CG), Jharkhand (JH), Madhya Pradesh (MP), Orissa (OR), Rajasthan (RJ), Uttar Pradesh (UP) and West Bengal (WB). Since the program was implemented in Bihar only from late 2004 onwards, results presented are only from the other eight states.

[3] This paper uses the term "systems" synonymously with the ICDS program and the programs of the MoHFW, as well as with the various components within these programs that represent systems such as those related to training, information, etc.

[4] The MPHW-Female is also called the Auxiliary Nurse Midwife (ANM). There is a proposal to have two ANM per 3000-5000 according to current NRHM guidelines in the EAG states

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there are limited options to take outreach health interventions to large scale. The private sector is seemingly popular and extensive in its reach, but provides mostly curative services. Currently, it cannot be relied upon to proactively provide preventive health services to the most disadvantaged, and incentive-driven models are yet to demonstrate viability for this purpose. The non-profit NGO sector has limited reach.

INHP-II recognized that the fastest way to get effective interventions to scale in a potentially sustainable manner was to engage with the existing public health systems, while simultaneously enhancing capacities of communities to demand services and to learn to sustain change. *Chayan* tried to find complementary methods such as social marketing, to support the efforts of national programs to strengthen reproductive health services. In this manner, both worked with two main national programs involved in providing public nutrition and health services: ICDS and RCH.

Of the two programs, ICDS then (prior to the introduction of ASHA, at the beginning of INHP-II) had the more intensive outreach: its village-based AWWs provided a better family-to-service-provider ratio and greater proximity to the community. Also, for CARE, ICDS was a more natural partner, with close working relationships going back many decades to virtually the inception of the ICDS program, the then Department of Women and Child Development being CARE-India's point of reference to the Government of India (GoI). Actual MCHN services and supplies, however, came from the RCH program, with which CARE developed a closer partnership during the course of RACHNA. Engaging the ICDS and RCH programs to reach the vulnerable more effectively was one of the two sub-objectives of INHP and of RACHNA, and is likely to remain a key goal of CARE-India in the long term.

The policy and program background and environment of INHP-II

The National Nutrition Policy (1993), the National Plan for Nutrition (1995) and the National Population Policy (2000) provided the policy backdrop for the design of INHP-II. The National Health Policy (2002) was a major policy initiative that happened early in the life of INHP-II. All of these also formed the policy base for *Chayan*. The nation-wide ICDS and RCH-I programs provided the main implementation platform. In addition, the World Bank assisted ICDS-III (1999-2004) operated in a number of states in which INHP-II chose to work, and the planning for ICDS-IV began during this period. The *Udisha* initiative (1999-2004) for improving training within ICDS was established before INHP-II began, but was contemporaneous for a large part of its operational period. RCH-I ended midway through INHP-II, and RCH-II and NRHM were launched in 2005 and became operational on the ground about a year later, as INHP-II was coming to a close. An extensive multi-stakeholder EPI (Expanded Program of Immunization) review of the National Immunization Program was conducted in 2005, in which CARE participated, and its recommendations fed into a comprehensive National Immunization Plan. The Eleventh Five-Year Plan of the GoI was on the anvil during the latter part of INHP-II and *Chayan* projects, and CARE contributed to its formulation. Several RACHNA program states formulated their nutrition policies during this period, with the close participation of CARE. Thus, for much of the period between 2001 and 2006, INHP-II and *Chayan* dealt with ICDS and RCH-I

programs, and had opportunities to engage with a number of important policy and program initiatives that are likely to shape the larger public health and nutrition programs of the next decade, especially those related to women and children. To a large extent, such policy contributions from CARE were informed by the lessons learnt while assisting the ICDS and RCH programs. These lessons are the main focus of this paper.

Boxes 10.1 and 10.2 provide outlines of the ICDS and RCH programs, for readers who are not familiar with these.

Box 10.1: The ICDS Program

The Integrated Child Development Services Program

The Integrated Child Development Services (ICDS) Scheme was launched on October 2, 1975, the birth anniversary of the Father of the Nation, Mahatma Gandhi, in pursuance of the National Policy for Children formulated in 1974. Beginning with 33 blocks on a pilot basis, the ICDS over the last three decades has expanded significantly, with a network of 5,959 projects. ICDS is the world's largest community based outreach program for women and children. By the end of the second year of the Eleventh Five-Year Plan (2007-2012), about 6,291 projects are expected to be operationalized in the country.

The ICDS program has reached a stage where it has become essential to harmonize its expansion and its content enrichment in order to accelerate the achievement of its core objectives. Prevention and management of malnutrition, poor maternal and adolescent nutrition, gender inequity, lack of quality nutrition and health education, lack of proper pre-school education and inadequate engagement of the community in development programs are some of the aspects that continue to pose a big challenge to the government and other agencies working in the field of health and nutrition.

In the face of these challenges, the need for a paradigm shift in the ICDS program implementation was felt by the MWCD, and was articulated in the form of a proposed Revised Implementation Framework for ICDS during the Eleventh Five-Year Plan (2007-2012). With the experiences gained over three decades if implementation, the proposed revised implementation framework aims to synchronize the evolved needs of the program. It proposes to hasten universalization of the program with quality by intensifying efforts to reduce high malnutrition, infant mortality rate and improve early childhood education. It aims to achieve these objectives within a normative timeframe through an intensive '*Mission Mode*' of implementation, as against the present '*Program Mode*'. Accordingly, with a set of guiding principles, the MWCD has initiated a consultative process to develop the revised implementation framework for ICDS.

Program Participants: The principal participants of the ICDS scheme are: children below six years, expectant and nursing mothers, adolescent girls and women in the age group of 15 to 45 years.

Outreach*: Poised for universal coverage with quality, ICDS reaches out to 13.2 million expectant and nursing mothers and about 63 million children (under six years of age) of the disadvantaged groups through a network of over 946,000 village level *Anganwadi* Centers (AWCs) set up at the community level across 5,959 development blocks and urban slums. Of these 30.5 million children (aged three to six years) participate in centre-based pre-school activities.

Package of Services: (a) Supplementary nutrition, (b) Non-formal pre-school education, (c) Immunization, (d) Health Check-up, (e) Referral services, and (f) Nutrition and Health Education. These services are rendered at the AWC through a grassroots local worker called the *Anganwadi* Worker (AWW), usually a literate woman belonging to the same village.

ICDS Program Functionaries: The ICDS team consists of the AWWs, Supervisors (one for about 20-25 AWCs at the cluster level) and Child Development Project Officers (one for each project).

* Source: Ministry of Women and Child Development, GoI Status Report of the ICDS as on September 30, 2007.

BOX 10.2: The RCH Program and NRHM

The Reproductive and Child Health (RCH) Program

With the vision to bring about outcomes as envisioned in the Millennium Development Goals, the National Population Policy (2000), the GoI's Tenth Five-Year Plan, the National Health Policy 2002 and Vision 2020 India, the 5-year (2005-2010) RCH project has emerged as a big program. The RCH-II supports the paradigm shift in India's Family Welfare program by promoting state ownership and pro-poor focus. With an expected outlay of about $9.5 billion, the program has incorporated new approach to population and development issues which emerged at the International Conference on Population and Development held at Cairo in 1994 and from the experiences gained during the Phase-I project implementation. The key features of the program are adoption of sector wide approach, decentralization, flexible programming, capacity building at all levels, performance based funding, convergence of both inter-sectoral as well as intra-sectoral levels, clear results framework, equity, gender, synergies with the other ongoing programs (HIV/AIDS and ICDS etc.), and promotion of behavioral change communication

The National Rural Health Mission (NRHM)

Recognizing the importance of health in the process of economic and social development and improving the quality of life of the citizens, the GoI launched the National Rural Health Mission (2005-2012) for providing integrated comprehensive Primary Healthcare Services, especially to the poor and vulnerable sections of the society. With an outlay of $14 billion, the goal of the Mission is to improve the availability of and access to quality heath care by people, especially for those residing in rural areas, the poor, women and children.

The Mission is being implemented throughout the country with focus on the 18 states, including eight Empowered Action Group States (Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Orissa, Uttaranchal, Uttar Pradesh and Rajasthan), eight North Eastern States, Jammu and Kashmir and Himachal Pradesh.

The Mission aims to undertake architectural correction of the Health System to enable it to effectively handle the increased allocation of Public Health. It also aims to bridge the rural healthcare through increased community ownership, decentralization of the program to the district level, inter-sectoral convergence (sanitation and hygiene, nutrition, and safe drinking water through a district plan) for health and improved health care. The Mission aims to achieve the goal of the National Population Policy and the National Health Policy through improved access to affordable, accountable and reliable Primary Health Services.

The NRHM has a provision of a female Accredited Social Health Activist (ASHA) in each village. ASHA is envisaged as the trained woman community health volunteer, who will reinforce community action for universal immunization, safe delivery, newborn care, prevention of water borne and communicable diseases, improved nutrition and promotion of household toilets. She will inform, interact, mobilize and facilitate improved access to preventive and promotive health care, and also provide basic curative care through her Drug Kit.

With a commitment to reduce maternal and infant mortality and provide universal access to public health service, the second phase of RCH (RCH-II) is a critical component of the NRHM.

A third system, beyond the ministries which are mandated to provide services, but with potential to considerably influence these public health programs and policies is the *Panchayati Raj*.[5] RACHNA attempted to find ways to engage institutions and local bodies within the *Panchayati Raj*, to tap this potential, especially in states

[5] *Panchayat:* literally, "governed by five (wise elders)", a traditional mechanism of local governance in South Asia. *Panchayati Raj* is the system of local self-governance, now enshrined in the constitution of India since 1992. States now have a 2-tier or 3-tier system of representative governance, the most peripheral tier being the *gram panchayat* (village *panchayat*)

such as West Bengal and Chhattisgarh, where these bodies were active. For a number of reasons, the depth of involvement of this system in public health issues is limited, and RACHNA's attempts to engage it in such matters has borne limited results. A detailed discussion of these experiences is however, beyond the scope of this paper.

The structure and coverage of INHP-II

The state-wise extent of coverage under INHP-II is presented in Table 10.1. As shown, of the total ICDS blocks in RACHNA-assisted districts, a variable proportion was directly covered by the project, ranging from less than half the ICDS blocks in the nine project districts of West Bengal, to all the ICDS blocks in the three project districts of Madhya Pradesh. Other states with near-universal coverage in the districts were Orissa and Rajasthan. Overall, 711 blocks, constituting about 73 percent of the ICDS blocks in the 75 project districts in eight states were directly influenced by project interventions. In all, over 95,000 AWC were covered. These AWCs and blocks constitute the universe for all direct programmatic interventions as well as the baseline and endline project assessments.[6] As described elsewhere[7], the blocks and districts in which INHP-II was implemented were determined by a number of factors, including need, as indicated by nutrition and health indicators, and historical and geographic continuity and contiguity.

The estimated population of the 711 ICDS blocks covered by INHP-II in 2006 was well in excess of 100 million, although it is difficult to get close estimates, since there are irreconcilable differences between the boundaries of blocks for which

Table 10.1: **Extent of reach of RACHNA in the program states during INHP-II**

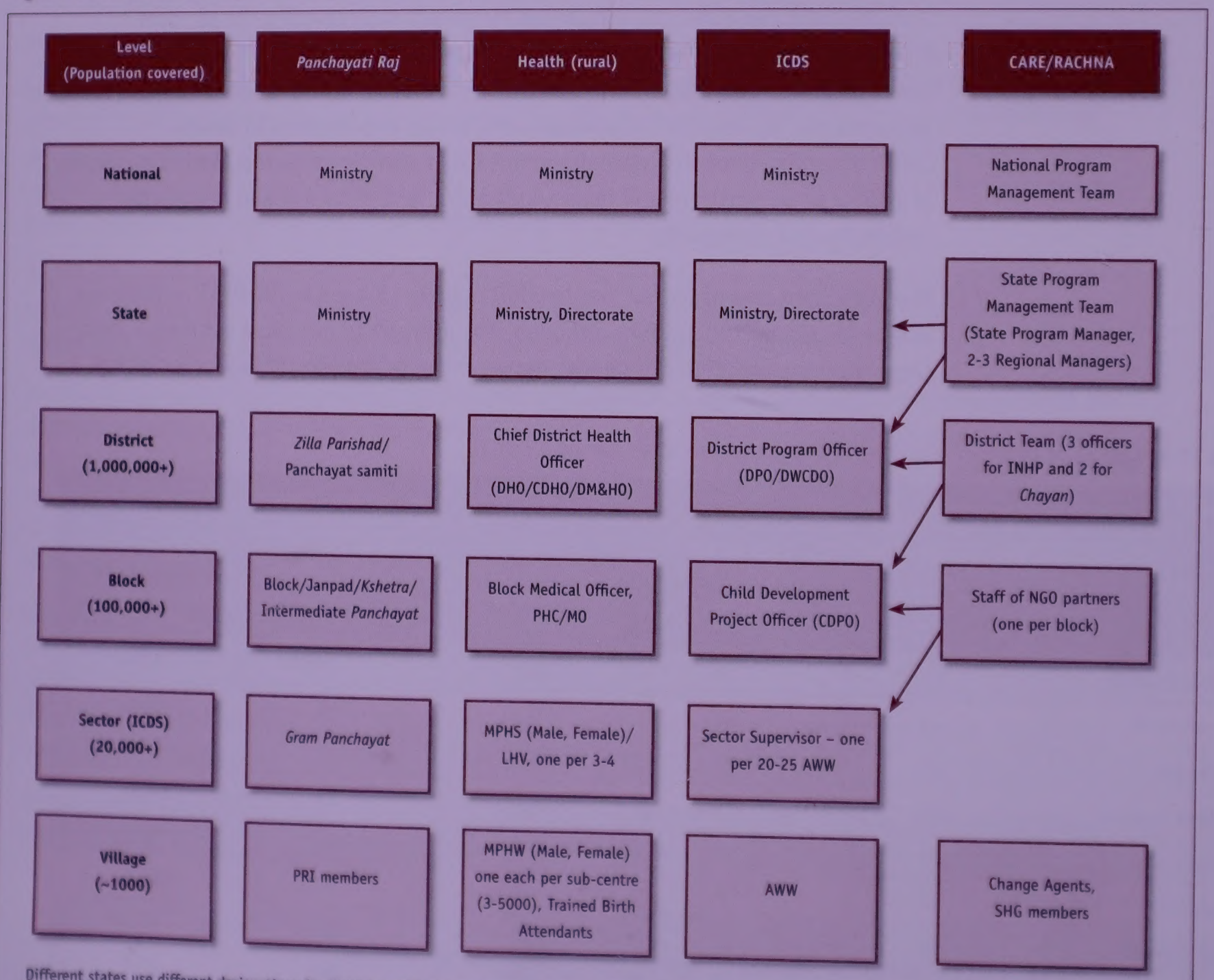
State	Districts		ICDS-covered Blocks		
	Total in the state	Covered by RACHNA program	Total operational ICDS blocks in RACHNA-assisted districts	ICDS Blocks covered by RACHNA	Percent coverage by RACHNA of ICDS blocks in RACHNA districts
Andhra Pradesh	23	8	121	70	57.9
Chhattisgarh	16	10	113	96	85.0
Jharkhand	22	17	172	125	72.7
Madhya Pradesh	48	3	29	29	100.0
Orissa	30	8	106	104	98.1
Rajasthan	32	7	67	64	95.5
Uttar Pradesh	70	12	180	132	73.3
West Bengal	18	9	192	91	47.4
Total	**259**	**75**	**980**	**711**	**72.6**

[6] This excludes 36 blocks in three districts in Bihar, where, as mentioned earlier, program interventions began only in late 2004.
[7] Paper 2: *Methods Used for Assessments* Paper 1: *Program Description*

census estimates are available and the ICDS blocks that the project covered. The total population of these 75 districts was estimated to be over 170 million in 2006, projected from the 2001 census. The total population of all eight states, where INHP-II was implemented, is about half the total population of the country. Since blocks are administered from the district for all programs, some influence of the project must have been felt in the remaining blocks of these districts, and even state-wide in these eight states, but this was not assessed.

The manner in which the INHP-II program structure complemented the structure of the ICDS and RCH programs at multiple levels, from the sub-district to the national is illustrated in Figure 10.1. Not shown in the figure, it also complemented a similar structure of the *Panchayati Raj*.

Figure 10.1: **Relationship of CARE/RACHNA organizational structure to key government programs**



Different states use different designations for district and block level personnel. Each cell carries equivalent designations. DHO = District Health Officer, DM&HO = District Medical and Health Officer, DWCDO = District Women and Child Development Officer, PHC/MO = Medical Officer - Primary Health Centre, MPHS = Multi-Purpose Health Supervisor, LHV = Lady Health Visitor (same as MPHS Female), MPHW = Multi-Purpose Health Worker. Often, the MPHW (Female) is called Auxiliary Nurse Midwife (ANM), AWW = *Anganwadi* Worker, PRI = *Panchayati Raj* Institutions, SHG = Self-Help Groups (of women). A *Gram Panchayat* usually comprises all residents of a cluster of villages, often equivalent in population to an ICDS sector.

The staff of RACHNA included the national and state level Program Management Teams and the District Teams. Local NGO partners assisted District Teams in implementation. In the early part of the program, NGO partners were mainly charged with developing and maintaining Demonstration Sites (DS); in the latter part, they were engaged to help facilitate engagement with ICDS and Health at Sector and Block levels. The arrows represent the levels at which RACHNA teams engaged the government programs. Change Agents were community volunteers, 3-5 per village, recruited and trained by RACHNA in coordination with ICDS and Health programs. The Change Agents were often supported at the village level by women's Self-Help Groups, besides the AWW and ANM.

The dedicated human resource available to INHP-II and *Chayan* projects included the following:

- Four functional positions were available to INHP-II at the district level: the Government Partnership Officer (GPO) to liaise with the government functionaries at the district level, the Capacity Building Officer (CBO) to manage all capacity building activities, the Demonstration Partnership Officer (DPO) to manage NGO partnerships and the Monitoring Officer (MO) primarily meant to monitor and manage food commodity support functions with ICDS. For rural *Chayan* districts, two additional positions were available: a Training Coordinator (TC) to manage training activities related to reproductive health and a Social Marketing Officer (SMO) for facilitating social marketing of reproductive health related products and services. There was, by design, a small overlap in these functions and positions, so that the divisions were not absolute. There were 52 such district teams between 78 districts, sharing districts based roughly on the number of implementation blocks in each district. The exact distribution of teams was also determined by the nature of the terrain and the complexity of program contexts.

- The state Program Management Team, consisting of a State Program Manager supported by usually 2-3 Regional Managers, managed operations as well as liaisons with partners at the state level.

- The Headquarters Team based in Delhi consisted of a Senior Program Director, supported operationally by 3-4 Regional Program Directors, and technically by a team of 5-6 technical specialists in fields related to nutrition, child health and reproductive health as well as monitoring and evaluation. The program was overseen by an Assistant Country Director of CARE-India.

RACHNA program had access to state-of-the-art technical assistance through the BASICS II Project supported by USAID in the areas of capacity building, strengthening systems, monitoring, measurements and documentation through 2001-2006, mainly covering the technical areas of nutrition, newborn care and immunization with a team of in-country staff at New Delhi.

In addition, a large number of locally-based NGOs, usually one or more in each district were engaged by the program to assist in various activities, such as demonstration, capacity building and behavior change communication. These roles also evolved and changed in the latter part of INHP-II and *Chayan* projects.

The population norms for various field positions in the ICDS and RCH programs are indicated in Figure 10.1, but as can be expected, these were not always found to hold true on the ground, and these shortfalls affected the RACHNA program area as well.

The details of the points of engagement of the INHP teams and their counterparts in the ICDS and RCH programs, and the outcomes of such engagement are the subject matter of this paper. It deals mainly with the experience of INHP-II in influencing various direct child health and nutrition interventions. Other

papers deal with specific aspects as pertaining to *Chayan* interventions,[8] and to the lessons from programming food supplements.[9] Another paper in this series examines the results and lessons from engaging communities, especially volunteers at scale.[10]

The rest of this paper is laid out in three broad sections:

- The first section describes how INHP was designed to engage with ICDS and RCH programs, and how its approaches to engagement evolved, based on the lessons it learned. The attempt is to walk the reader through the experience as it developed, while maintaining focus on the targeted impact.
- The second section presents measured results from the best available sources of data on the project, including a number of large-sample household-level surveys. This section discusses evidence linking program processes and outcomes.
- The third section attempts to raise and answer a number of questions about the relevance of the INHP experience to public health programs in India, and the way they can be influenced.

The INHP Approach to Engage and Strengthen Systems: Design and Evolution

The Place of the Public Health Systems in the Design of INHP-II

At the outset, it was recognized that "the Government has the largest and the most important infrastructure dedicated to making nutrition and health improvements, therefore influencing and supporting the Government system to adopt and replicate best practices is critical" (CARE-India, 2001, INHP Development Activity Proposal). The strategy was therefore to innovate and demonstrate a set of best practices through partnerships with NGOs, who in turn would work with communities and community organizations. This would happen in "Demonstration Sites"[11] and the demonstrated best practices would then be offered for replication to the Government systems through advocacy, followed up with capacity building support. The set of best practices was identified at the outset on the basis of qualitative and quantitative evidence from INHP-I, which included approaches aimed at improving reach of services and improving caring behaviors. These Best Practices became the most visible symbols of INHP-II in the early years, and are described a little later.

The overall objective of INHP-II originally articulated was that "Vulnerable families achieve sustainable improvement in the nutrition and health status"

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[8] Paper 8: *Deepening Access to Spacing Methods;* Paper 9: *HIV Prevention in Vulnerable Indian States*
[9] Paper 6: *Supplemental Feeding: It's Role in a Large Scale Maternal and Child Nutrition and Health Program*
[10] Paper 11: *The Role of Community Volunteers in INHP*
[11] A Demonstration Site (DS) was an AWC that held an NHD every month, had a community group that managed nutrition and health activities, had at least three active Change Agents and had other need-based innovations. The DS were largely supported by local NGOs, and served to demonstrate how these "best practices" were to be implemented, thus facilitating their replication to the rest of the district. The AWCs beyond DS that were reached by end-2004 were termed Replication Sites (RS) and the rest as "Others", in order to provide a sense of the duration of RACHNA interventions in different AWC.

in a specified population. The specific impact objectives were determined to be reductions in levels of child malnutrition and infant mortality. A core set of technical interventions to be promoted by INHP-II were selected on the basis of their proven ability to effectively address these impact objectives (Box 10.3). Care was taken to ensure that these interventions were actually or potentially integral to national programs and policies related to health and nutrition. Since the ICDS program was nodal to INHP, it was important that selected interventions were not outside the scope of this program. Thus, INHP-II chose to strengthen a basic set of interventions that were either explicitly or implicitly inherent to ICDS and RCH programs. Over the course of the project, as the need for effectiveness was increasingly felt, these interventions acquired greater refinement and specificity. Most of these interventions have a place on the list recommended for universal implementation, in the Lancet Child Survival Series (*The Lancet*, 2003, 2005, 2008). These determined the core content that was promoted through the best practices.

In addition to promoting best practices at operational levels, INHP-II originally aimed to target and strengthen three specific systems within ICDS and Health programs. Training institutions and systems were seen to require much

BOX 10.3: Technical Interventions to reduce Child Malnutrition and Mortality, promoted by INHP-II

- ***Antenatal Care:*** INHP-II focused primarily on those antenatal interventions that might improve neonatal outcomes, including antenatal check-ups, TT vaccination, iron-folic acid supplements, supplementary feeding, increased dietary intake, reduced workload, rest and preparations for safe delivery.

- ***Community-based Newborn Care:*** The challenge was to find practical ways of improving neonatal survival, that were scientifically sound, user-friendly and feasible to implement through the existing delivery mechanisms and in the current policy environment. These included: cleanliness in handling the neonate at birth and in the first week and first month, warmth at birth and in the first week and first month, early and exclusive breastfeeding, and early recognition (through simple clinical signs) and care of the premature/low-birth-weight baby (more aggressive attention to cleanliness, breastfeeding and warmth). These were largely behavior change interventions.

- ***Nutrition Essentials:*** INHP emphasized the critical nutrition interventions required for adequate growth and development as a package during the first two years of life including the period of pregnancy. These included: early and exclusive breastfeeding, appropriate complementary feeding and vitamin A, iron and folic acid supplementation for children.

- ***Child Immunization***: INHP-II focused on complete and timely primary immunization of all children, including the BCG, DPT, OPV and Measles vaccines that were then included in national immunization program. Hepatitis B was added state-wide only in Andhra Pradesh by the end of INHP-II. INHP-II promoted strategies to minimize left-outs and drop-outs by strengthening service delivery systems and tracking systems at the village level.

- ***Food Supplementation:*** INHP-II supported the supplementary feeding invention of INHP by providing the in-kind commodity i.e., corn-soya blend (CSB) and refined vegetable oil (RVO) to be used as a nutritional supplement and an incentive to draw the most vulnerable women and children to utilize health services. While the intention was to continue food supplementation throughout the program period, commodity supply was disrupted in mid-2002 due to concerns expressed by the Government of India about genetically engineered sources of the CSB. The CSB supply ceased by early 2003, while oil supplies continued to be programmed until the end of INHP-II, together with grains supplied by the respective state governments.

strengthening; information and supply systems were recognized as not sufficiently coherent and in need of overhaul. In the long term was envisioned "a growth in capacity of both, the government and communities over time, which would allow a decrease in the need for externally funded projects" (CARE-India, 2001, INHP Development Activity Proposal).[12] As described later, substantial changes in the approach to implementation were introduced in the program as operational lessons were learned, and the levels and methods of engaging the systems became more practical and bottom-up. What INHP-II was neither designed to do nor became involved in was direct enhancement of infrastructure or supplementation of supplies (other than food commodities for ICDS). The structural change that INHP-II did attempt to bring about, however, was in the thinking at operational levels of the national programs.

Beginning with this design, RACHNA attempted to continuously respond to lessons learned from the field, adapt to changing internal and external environments and to new knowledge, and simultaneously maintain a level of continuity in strategy to allow time for interventions to mature and become effective. Given the size and complexity of project, and the relatively small human resource, and the absence of a dedicated learning phase[13], maintaining the right balance was never easy. The rest of this section describes in some detail the evolution of RACHNA's approach to engaging systems in the specific context of improving their effectiveness in achieving child malnutrition and mortality reductions.[14]

Phase 1: Creation of the Operational Strategy

Late-2001 to Mid-2002

A series of consultations were held with district and state level INHP, ICDS and RCH staff on key technical components involving newborn care, nutrition and immunization, starting late 2001. These consultations focused on defining the interventions packages and the operational mechanisms, and led to the drafting of an operational strategy. The key elements of the Operational Strategy for INHP-II were eventually based on the operational experience of INHP-I:

- Four of the many approaches that were used during INHP-I were identified as best practices[15], worthy of scale up during INHP-II. These were identified through internal reflections using quantitative and qualitative evidence and recommendations from the INHP-I midterm and end-line reviews by engaging stakeholders across states. They are briefly described in the accompanying box

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[12] The detailed operational strategy of INHP-II, which was evolved by April 2002, was also influenced by the recommendations of the Final Evaluation of INHP-I, not available when the design was originally proposed. More details of the design of INHP-II are available from numerous program documents. See, especially, the INHP-II Development Activity Proposal, the Final Evaluation Report of INHP-I, The INHP-II Operational Strategy document and the RACHNA mid-term document, RACHNA Midway. These are available on the CARE-India website, or on request.

[13] The demonstration sites were meant to be the learning sites for INHP-II – sites that would provide lessons for more effective implementation, even as replication at scale proceeded simultaneously. The assumption was that there was not sufficient time within the life of the project to accommodate a separate initial learning phase. Later, a limited number of Early Learning Sites were fast-tracked in 2002-2003 to provide quick lessons before replication gained momentum.

[14] The phases described here were not designed when the project was conceived. They are now apparent in retrospect, although there is a fair amount of overlap between consecutive phases. The description of the phases here may be a little different from what has been described elsewhere, such as in *Paper 12: A Cost Analysis of the RACHNA Program* in this series, and only serves to provide a framework in which to understand the lessons that emerged.

[15] A best practice was conceived as a pilot or innovation that has been evaluated, validated, and demonstrated

(Box 10.4). Each of the best practices was, in essence, a managerial solution to a common operational problem or issue faced by the government programs or by the communities. Although they had been implemented over a variable period of INHP-I, none of the identified best practices was in uniform use across all areas in INHP-I, although all states had experience in implementing Nutrition and Health Days and Change Agents at variable scale. Therefore, detailed guidelines were drawn up to facilitate the implementation of the best practices uniformly during INHP-II.[16]

- Another concept that was carried over from INHP-I was that of the Demonstration Site (DS). DS constituted about 10 percent of all the AWCs in the INHP-II districts where the Best Practices were to be implemented. The DS were intended to serve as the learning ground and platform where fresh innovations would throw up best practices and from where best practices would be replicated in the rest of the AWCs. Replication in INHP-II was thus operationally defined as "identification and scale-up of best practices through Government partnership and capacity building".

- A broad plan for replication following demonstration was laid out in the operational strategy, with well-defined concepts of what it meant to replicate good practices, through what steps.[17] Recognizing the intensity of efforts, resources and capacities required, it was determined that replication would reach about 25 percent of AWCs by late 2003 and 50 percent by late 2004, replication being defined mainly as the spread of best practices to these areas. It was understood that the remaining half or so of the AWCs in each district would be reached by the end of the program through the different approaches of strengthening systems that had been envisaged, including the strengthening of training institutions and their curricula. Through district and block level initiatives like engagement with ICDS and RCH, capacity building, convergence etc, interventions would have reached full scale by project end. Considering the large scale to be reached and the relatively short time available, it was recognized that replication efforts would have to be begun even along with demonstration.

- Since demonstration was an intensive process that included innovating in processes to enhance effectiveness, partnerships would be established with selected local NGOs having roots in the communities to hand-hold implementation in the DS.

- The district was recognized as the more appropriate implementation unit, rather the block as in INHP-I, particularly to facilitate engagement with the existing systems.

- Three core operational processes were identified that would constitute the bulk of tasks involved in implementing INHP-II: capacity building of all stakeholders

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[16] Available in the INHP-II Operational Strategy document.

[17] It was conceived as an IDEAS framework, where innovations would first be locally tested, documented, and then externally marketed to the government programs. This would be assessed and provided capacity building support, and support would then be extended to ensure implementation.

Box 10.4: INHP-II "Best Practices"

1. **Community Volunteers**: A cadre of volunteers called change agents (CAs) representing and catering to a cluster of 15-25 households, working with support of the AWW and community organizations to promote child health and nutrition practices. In *Chayan* rural areas, Reproductive Health Change Agents (a male and female) were to provide information and counselling on family planning choices to men and women of reproductive age.
2. **Nutrition and Health Day (NHD):** A Nutrition and Health Day is a fixed-day of the month when take-home rations (THR) of supplementary food are distributed by the AWW and an ANM visits the AWC to provide a package of health and nutrition services including immunization, antenatal check-ups and micronutrient supplements. In *Chayan* rural areas, modern contraceptives were also to be provided.
3. **Community Based Monitoring Systems (CBMS)**: Individual-based and community-based tools to track caring practices and service utilization, and to facilitate problem seeking and solving by community groups. Different tools were developed and used across states. Social Maps (SM) were the most commonly used tool for defining catchment areas and community monitoring. Self-Monitoring Tools (SMT) consisted usually of wall drawings of culturally appropriate symbols, each element of which represented a certain aspect of care during pregnancy or infancy, and which could be used as an aide memoir by individual mothers during this period.
4. **Block Level Resource Mapping (BLRM):** A process of joint program review by ICDS and Health functionaries at the block levels, which involved the use of maps to indicate the distribution of resources and patterns of service coverage.

concerned (including core INHP staff), strengthening specified systems (training institutions, information and supply systems) and behavior change communication (development and use of communication material, including leveraging existing efforts of a number of other programs and initiatives).

- The project would explore and develop approaches to address the underlying causes of women and child malnutrition and mortality, including the various kinds of exclusion of vulnerable groups, particularly those based in inequities of gender and other social paradigms, as well as those arising from geographic isolation.

Phase 2: Early Implementation and Early Lessons
Mid-2002 to Mid-2003

A little later, informed by the operational strategy, capacity building and behavior change communication elements were detailed and related materials, including a large number of tools to assist implementation and review were developed. The internal program monitoring system that existed during the INHP-I was reviewed and revised in consultation with critical stakeholders.

Partnerships were developed with local grassroots NGOs in each district to help establish DS having functional best practices, and to help innovate further, particularly to evolve ways of getting community participation in the program – considered vital for long-term sustenance of the program. ICDS functionaries then identified AWC in each block that could be developed as DS. The criteria used for selecting AWC to be DS varied a little from state to state in trying to strike a

balance between spread, functionality and likelihood of adequate implementation intensity. From among the rest of the AWC, Replication Sites (RS) were later picked in phases.

The involvement of the ICDS and Health programs in this approach was integral, in the sense that AWWs, ANMs and their supervisors at sector and block levels had assigned roles to play in the execution of each best practice. In addition, right from the outset, efforts were made to constitute block and district level forums where functionaries of ICDS and RCH programs, representatives from NGOs and local governance bodies with or without other departmental participation, could jointly review progress periodically and take action. Such forums, called the Block Level Advisory Committee (BLAC) or District Level Advisory Committee (DLAC), were created in a large number of districts during this phase.[18]

The operational strategy had envisaged the need for quickly implementing a number of processes and tools in a few carefully chosen sites, so that practical lessons could be learnt and used to inform the larger program implementation. This was considered necessary particularly because not all the selected Best Practices had been in use in all states during INHP-I, and field teams needed hands-on experience in implementing each of them to gain confidence to advocate their wider use. Over 100 such Early Learning Sites (ELS) were developed accordingly with the help of NGO partners, in clusters of 3-5 per district in selected districts in each state. In these sites all the best practices and related tools were put in place with considerable intensity. The ELS process was originally planned to last for 6 months, followed by a detailed assessment, but was delayed and eventually assessed in July-August 2003, through rapid quantitative household surveys including a comparison group on non-ELS villages, followed by a qualitative assessment. The main lessons from these assessments are presented in Box 10.5.

The validity of the results of these assessments was limited in what they could predict, by the relatively small scale of implementation, and the unusual intensity of external facilitators, but they provided the earliest objective evidence about the status of the processes promoted by INHP and their links to outcomes.

The project responded in several ways to these findings. A detailed technical guide was produced for INHP field staff and managers of the ICDS and RCH programs and they were exposed to a series of technical updates. A greater emphasis was placed on monitoring the quality of training programs. A more methodical involvement of ICDS and RCH field staff was called for. A small but detailed package of tools was put together aiming particularly to address behavior change for better nutrition outcomes.[19] The assessments also gave the project a first taste of what it meant to generate and use hard evidence. It generated demand for more use of evidence within the RACHNA teams.

By the time the ELS assessments were carried out, though, work on replication had already begun. In most states, this consisted of a sequence of steps

[18] In some instances, similar existing forums were reconstituted or strengthened.
[19] This material has also been referred to in Paper 4, *Changing Infant and Young Child Feeding Behaviors*, and is available on CARE-India's website or on request

Box 10.5: Salient Findings of ELS Assessment, July-August 2003

In brief, the assessments** showed that while ELS were doing clearly better than other sites in terms of levels of service coverage and prevalence of desired caring and feeding behaviors, all the best practices were not working as envisaged:

- The Nutrition and Health Days did attract considerable community participation, were well organized, and did contribute significantly to good coverage of immunization and antenatal care services, but there was considerable variation in the understanding with which tools, including service registers were used for purposes of tracking children and women.
- The Change Agents were often in place in the required numbers, were well-trained and were enthusiastically contributing in different ways to the work of the AWC – completely voluntarily; however, one obvious reason for their sustenance was the high frequency of supportive visits by NGO staff to these villages – an intensity unlikely to be sustained at scale.
- The tools and processes for Community-Based Monitoring were in place and in use, but not quite as envisaged. In the few places that the individual-level self-monitoring tools were being maintained seriously, it was due to considerable efforts by volunteers, service providers and NGO staff. The social maps were present in all AWC, had often contributed to identification of houses and hamlets that had been left out of service registers, but did not appear to be useful to the local women's groups for tracking purposes. Also, operationally, tracking any indicators on maps over time was cumbersome.

The assessments showed that, even where the level of enthusiasm and action on the part of service providers and volunteers was high, the focus tended to be diffuse – not sufficiently focused on interventions likely to change outcomes. Particularly, behavior change "messages" lacked contextual and content specificity, and the NGO and INHP staff were not always aware of this gap. This was apparently an important reason for the relatively low achieved levels of critical caring and feeding practices, even in the ELS, which were in any case better than the comparison group. An important finding that emerged from the surveys was that the major difference in terms of processes between ELS and comparison sites was the higher frequency of mother-reported contacts with service providers in the ELS. Service providers, when interviewed, attributed their good performance to training provided by CARE.

** A complete report on ELS assessments is available from INHP on request.

beginning with convincing the ICDS and RCH leadership at the state and district of the usefulness of the best practices, identifying about 25 percent of AWC in the district as replication sites with their involvement, obtaining their consent and approval for training functionaries in implementing them, scheduling and executing the orientation or training of all ICDS and RCH functionaries related to the chosen through an elaborate cascade of training teams composed mostly of NGOs staff and system functionaries, and following this up with monitoring through the program MIS. This required an enormous amount of organization on part of state and district teams of INHP, and involved a wide spectrum of stakeholders, in which ICDS and RCH program staff took center stage. By September 03, despite delays, these processes were well on way to being established on the ground. An elaborate, analytical description of how the replication strategy took interventions to scale can be found in the document, *RACHNA Midway.*[20]

[20] *RACHNA Midway-Reflections on a journey*, November 2004, is the internal mid-term process document of INHP-II, and is available on CARE-India's website, or on request.

By March 2003, the project MIS, based on the operational strategy, was finalized and established in the field in the subsequent months. It responded to the internal need for process information required to manage INHP, and consisted mainly of periodic reports from different levels that quantified the extent of implementation of specified processes across all AWC, blocks, districts and states, including the best practices. It collated information for demonstration sites and the rest of the AWC separately. The cornerstone of the MIS was a monthly report from every one of the 95000+ AWC supported by the project, which consisted of information on fourteen process indicators of relevance at the community level. The MIS was largely structured around this basic monthly report from the universe of AWC.

During this period, certain events external to INHP affected the project in a significant way. The *Chayan* project was launched on the ground during this period, and the rural component of *Chayan* began work in INHP demonstration sites in four states. This meant fresh recruitments of field staff and reorganization of work in these states. Another landmark event related to the food component of the program. In July 2002, CARE received a letter from the Genetic Engineering Approval Committee (GEAC) of the GoI disallowing commodities that contained genetically modified organisms (GMO). This had direct implications for CSB and CDSO as there were no mechanisms within the US for certification that these commodities did or did not contain GMO. This was a major and unexpected setback to the program, to CARE and to the respective state governments in the middle of a fiscal year: the value of CSB imported through INHP-II was approximately US$ 48 million per year, and it was impossible to raise similar resources from elsewhere at such short notice. After some negotiations, it was determined that the food that was already within India as of July 2002, either at ports or in the field, could be programmed, but with that ended one of the longest lasting food programs under Title II in India. This meant renegotiating relationships with the state government counterparts in terms of replacement of CSB with local grains as well as highlighting the value addition through INHP's programmatic work.

Phase 3: Gathering Evidence and Refining the Strategy
Mid-2003 to Early 2005

An opportunity to more directly engage district level administrative and program managers was provided by the first round of periodic assessments in a panel of one district in each of the eight states, conducted in November 2003.[21] The universes for the surveys were the sets of just established replication sites in these districts, and in that sense the first round results laid down a baseline for change that was expected to be seen thereafter. For the first time, independently

[21] Paper 2 in this series, *Methods Used for Assessments*, describes the rationale and methodology of the periodic rapid assessments (RAPs). They were serial large-sample household surveys conducted in a universe of first phase replication sites in one selected district in each of eight states. They were meant to provide feedback on whether processes and outcomes were progressing as envisaged. The first round was originally conducted in July-August of 2003, but the data collection was deemed unsatisfactory, and the survey was repeated in November 2003.

gathered concrete, considerably detailed evidence of the status of specific interventions in newborn care, nutrition and immunization at the district level was available to local teams – to not just the INHP teams, but more relevantly, to ICDS and RCH program functionaries and block and district level leadership. The information came from interviews of women in known villages or from interviews with the known field staff of the programs, and thus carried immense local credibility. It quantified the actual inputs that ICDS and RCH programs gave in the field and the outcomes in terms of coverage and quality of services and prevalence of desirable health behaviors.

The data was shared at district level workshops in these eight districts, including all key ICDS, Health and administration officials, often joined by a PRI representative. Wherever available, data from NFHS-2 and the last round of the DLHS for that district were also shared. The very low levels of many indicators, including service coverage, key behaviors and what were beginning to be recognized as key processes – contacts, include home visits by service providers – were a revelation to the various stakeholders. It was also clear that most implementers were not familiar with the generation and use of estimates of indicators presented from these surveys. The expression of the estimates as rates did not come naturally to them, since most were used to dealing only with numbers – such as numbers of children given a certain vaccine, or numbers attending the AWW in a given month, without reference to denominators, or at most, reference to notional denominators. In almost all panel districts, the district collector led the problem analysis and directed the development and implementation of the action plans, in some cases more proactively than others. In some of the districts, the initial response to the poor status of indicators was that of denial of the low service coverage rates, but was followed by tacit informal acceptance. The intensity of engagement of these personnel and the quality of response to this exercise was not uniform across the eight districts, but in most instances, the workshops led to development of action plans of variable breadth and depth designed to address child mortality and malnutrition. In almost all districts, one or more of the INHP Best Practices were included in the district action plans. Besides, there was also variable focus on strengthening basic registers and tracking mechanisms. These early discussions provided useful insights on how to get such elementary processes right, and on why such mechanisms are not easy to sustain. These discussions were also precursors of approaches that characterized the latter phase of INHP-II.

The findings of the first round of RAPs had become available in December 2003, within weeks of the surveys being completed and were formally shared in these workshops in January-February 2004, but it took several weeks and months for the discussions to translate into concrete changes in program implementation. Following this exercise, at least a few officials of the ICDS and Health programs in each district demonstrated a greater sense of purpose and willingness to focus on critical issues.

Simultaneously, it also became clear how much lesser focused those districts were, which did not have the benefit of similar, locally generated data. It was not possible to conduct full-scale independent surveys in all districts, but scaled down versions of these surveys were designed and at least one round of such "mini-RAPs" were

conducted, at a fraction of the cost, in over 50 of the 78 districts over the next two years. These were still large sample surveys, but used very small questionnaires and used teams of ICDS and health program functionaries as well as local NGOs to collect data after appropriate training. Actual data collection took about a week for each survey, and the consensus was that the conduct of such quick surveys by program functionaries about once a year was a feasible proposition. INHP teams helped with the data analysis and the sharing of findings.

The experience of thinking concretely about facts, induced by such surveys – gathering data, examining analyses, thinking through the implications of the findings – itself was an intervention for all concerned, INHP teams as well as program functionaries at different levels. The gathering and use of evidence helped everyone involved understand the links between processes used and the outcomes they produced. Quite unconsciously, over time, the processes and tasks of running the program had become so overwhelming that, whether they were producing outcomes commensurate with the efforts was a question hardly ever being asked at operational levels. This was almost as true of INHP field teams as of the functionaries of ICDS and RCH programs.

It also became clear that while absenteeism and other forms of avoiding work were common, most field staff of the national programs did put in considerable time into their work, but that this time was often spent on activities unlikely to produce tangible outcomes.

A similar but less intense set of planning workshops followed the second round of RAPs, conducted on the same universe in July and September 2004, just before the project midterm. There was wide variation across different districts in the magnitude of change between the two rounds, and also in the specific indicators that showed change. However, where changes were prominent, they could often be attributed directly to the greater systemic attention on those specific issues, even though the intervening implementation period was relatively short. Similarly, it was also clear that lack of change was accompanied by evidence of lack of operational focus on activities that might have produced better outcomes. To those directly involved in these processes, this was an exciting moment: here was evidence that, given the right focus, existing national programs could bring about people-level change, and that such change was easily measurable.

An important finding was that, except for one district (Kanker in Chhattisgarh), Change Agents were not reaching a large proportion of households as they had been expected to do, while the AWWs and the ANMs were now widening their reach quickly, and were reaching far more families than the Change Agents were. This was different from what had been predicted when Change Agents were first recruited with the understanding that they would make regular contacts with families to provide relief to the apparently stressed AWWs and ANMs.[22] In some districts, the increase in the level of effort on tasks related to providing timely information and advice to families, put in by these government program

[22] It was also specifically predicted that the Change Agents would help reduce exclusion by bringing those families into the net of services who were systematically excluded by the service providers, but evidence did not demonstrate that this was happening in most places: women and children excluded by service providers (such as for making home contacts) were also excluded by the Change Agents.

functionaries was estimated to be surprisingly high, and had come about relatively easily, simply by focusing the attention of supervisors on methodically on such tasks. This also provided the first clear indication of the extent to which system functionaries themselves could become effective in delivering key services and information to families, given adequate program monitoring focus. A detailed analysis of the RAPs data from the first two rounds, and the conclusions drawn is available from the document, *RACHNA Midway* (ibid).

In the meanwhile, by late 2004, replication processes had reached over 40 percent of AWC across the project states. This had taken a huge effort in terms of capacity building activities. It was estimated at the midterm in December 2004 that well over 600,000 had participated in various orientation or training/capacity building sessions by that time, including nearly 150,000 functionaries, mainly from ICDS and health programs at the district and sub-district levels across the project area, besides Change Agents and members of CBOs. The identified best practices were being established ever more widely: by September 2004, over 45 percent of the AWC across project blocks reported holding Nutrition and Health Days, about 36 percent of all AWC had at least three Change Agents trained and in place, a similar number had community-based monitoring systems in place, and at least 50 percent of the planned quarterly program review meetings at the block level (BLAC) had been conducted, even if all of them did not use mapping techniques.

The intensity of engagement of INHP with the systems at the state level varied considerably from state to state. In some states, the engagement was largely related to operational issues related to ICDS and RCH that INHP promoted, including getting approvals and directives to enable implementation of processes such as the best practices in the districts and blocks that INHP assisted. In others it went beyond that to either involve PRIs, prominent in West Bengal and Chhattisgarh, or to influence policy, such as a campaign, *Kuposhan se Suposhan tak* (Moving from malnutrition to good nutrition) in Chhattisgarh, which, along with other initiatives eventually culminated in the formulation of a Nutrition Policy for the state. In UP and Jharkhand, and to a lesser extent in other states, there was close involvement in planning and executing the biannual months' strategy (*Bal Swasthya Poshan Mah*, or BSPM) that was designed to have focused implementation of selected child health services, such as vitamin A supplementation and immunization, in two predetermined months each year. In all of this, the approach usually was to have multi-stakeholder initiatives, working closely with other agencies such as Unicef and MOST (now A2Z), as well as with NGO partners.

Lessons drawn at the Project Mid-term

At the mid-term, the program was reviewed keeping in mind the goal of the program: to take effective interventions to the full scale of the project area by mid-2006, with demonstrable outcome-level results. It became clear that the picture was a mixed bag of approaches that were working well and others that were not working well enough. To illustrate:

- Across the program, the acceptance of the best practices of INHP was growing; the NHD and Change Agents were particularly popular with the ICDS and RCH programs in many states.

- The capacity building plans were rolling out quite smoothly, covering large numbers efficiently, through a cascading system of training teams at multiple levels. While this did not amount to reforming existing training institutions, it did provide a fairly robust mechanism of quickly scaling up. However, there was also the realization that even this efficient approach would not be sufficient to get interventions to the more than half the project villages that remained to be reached in the time remaining for the project.
- NGOs were doing a good job in implementing best practices in the Demonstration Sites which constituted about 10 percent sites, but there were not many fresh innovations coming out this experience that could make a big difference or that could be easily replicated. A related observation was that, in the DS, the NGO staff in their enthusiasm tended to marginalize the roles of the field workers of ICDS and RCH, and this made the DS processes less replicable. Another perception was that, as the scale of coverage of INHP increased and the best practices became acceptable, the relevance of the DS appeared to be diminishing.
- The rates of increase in service coverage and behavior change at scale were evidently not commensurate with the more rapid increase in process coverage. For instance, while the adoption of NHD was fast, immunization rates did not appear to be increasing in the same proportion. Similarly, while Change Agents were selected and trained in most replication sites, their contribution to bringing about behavior change was disproportionately small. Would more of the same thing provide faster results?
- The observations made on the Community-Based Monitoring systems during the ELS assessments, including the use of social maps by community groups and the use of self-monitoring symbols by individual women for tracking service coverage and child caring practices, were further strengthened by the mid-term by recurrent field experience. While social maps were useful one-time (or periodic) tools for identifying hamlets or families inadvertently falling out of the catchment area of an AWC, they were impractical for routine tracking of services and caring practices, given the process intensity. The self-monitoring tools were scarcely used by individual women in most districts, again because they were process intensive.
- Despite efforts from the outset to keep the program focus on a small number of effective interventions, in practice the attention of field staff was given to completing the large burden of tasks and activities rather than to monitoring and ensuring effectiveness.
- Lessons on effectiveness were being learnt in smaller experiments such as in a handful of districts, with the help of serial data from independent household surveys, and in a few other districts from local initiatives, but there was no easy manner in which the momentum of implementation tasks could be lessened to facilitate mid-course changes in the larger program.
- Two evaluation research studies, on newborn care and nutrition, were under way in two districts, and their mid-way assessments also told a similar tale: processes were in place, but the achievement of outcomes was slow.

- Organizing training programs was one of the most time-consuming activities of the project. This was expected when capacity building was one of the cornerstones of the strategy. However, repeatedly gathering workers for special training sessions was impractical in the face of huge implementation loads, and in any case was not sufficient to sustain implementation momentum and quality. It was also proving difficult to monitor the quality of training programs when conducted at large scale.

- It was recognized from the outset that a number of social inequities created barriers to all women and children accessing health and nutrition services and information, and that, although ICDS and health outreach programs had design elements that were intended to overcome these inequities, they were often not effective enough. Some useful lessons were learnt while attempting to understand and address such barriers:

  - *Gender* was an important factor determining child care. However, as was made obvious in all surveys, there was little evidence of direct gender-based discrimination in the care and feeding of children for the indicators measured: girls and boys had similar levels of service coverage and behavior, and malnutrition rates were even. Gender did clearly impact child care in terms of the meager support that the mothers received from others at home in taking care of children, however, and possibly in terms of the tendency to seek care for serious illnesses of boys more frequently than of girls. Interestingly, the level of caring and feeding did not appear to be related strongly to the occupational status of mothers: children of working and non-working mothers had similar rates of coverage in these rural areas. It is conceivable that the influence of some of the gender (and other variables of social equity) are not visible because of poor overall levels of child care and feeding, and as communities learn to practice more "correct" behaviors, such prejudices may come to the fore more clearly.

  - *Caste* based discrimination was visible in the field, particularly in certain states such as UP and Rajasthan. It hardly showed up in household surveys, however, except for small differences in the receipt of services. Presumably, discrimination in different villages worked in different directions, perhaps based on what the caste of the AWW or ANM was, and these differences became muted in the aggregate.

  - *Physical distance*: Another difference tangible in field observations was the gap between services available to hamlets in which the AWC or the health sub-center was located and the remaining hamlets in the same village. Attempts were made to measure this difference during household surveys using two parameters: whether the respondent was located in the same hamlet that housed the AWC, and how many minutes it took to walk down to the AWC. For most services, one or both of these parameters showed differential coverage, but almost always by a small margin.

  - Other forms of discrimination – such as disabilities – were recognized, and qualitative assessments confirmed their existence, but these were too small to show up on random sample surveys, and were not measured.

What became increasingly clear as evidence accumulated from the surveys was that, while 10-15 percentage point differences in coverage estimates between categories of any of these variables (such as different castes) were seen in the case of some of the indicators, these were dwarfed by the large gaps that still existed between the coverage for the best category (say, upper castes) and expected universal coverage for a public health program. In the case of a few indicators in some states where overall coverage was close to universal, the differences between such categories also were negligible. It also became clear that complete exclusion of individuals and families from all services was rather uncommon, amounting to well less than fine percent in most states. Most families did receive some services, but very few received all services. Taken together, this was interpreted to mean that the main cause of exclusion from services was gross systemic failure to simply reach out to anyone at all, much more than any specific form of discrimination. The poor state of the records and registers maintained by frontline workers in many districts across all states bore eloquent witness to this failure.[23]

- Different levels of efforts were made to reform or refine the form and use of existing records and registers, especially at the AWW level. In at least two states, the issue of the excess of registers was addressed at the request of the state government. Detailed workshops involving field workers helped substantially reduce the burden by rationalizing records and eliminating duplication to the extent possible. "Cohort" registers of different detail were tried in several districts, where all services provided to a mother and her child could be tracked in a continuum from early pregnancy until the child was about two years old or more on a single page. Behavior related indicators were included in some of these registers in an attempt to bring behavior tracking into focus. It was realized that, whatever the number and form of these records, it was the way these tools were used, and the supervisory priorities, which determined how much attention an AWW of ANM paid to coverage and quality.

- A wide range of efforts had been made across the program for engaging community representatives in monitoring the work of the ICDS and health programs in different ways. While some of these processes worked well to an extent under close facilitation, they did not appear suitable for replication at large scale.

Strategic refinements after the project mid-term

The program strategy clearly needed refinements. Taking into consideration the mid-term review findings and all the lessons up to then, and after a series of deliberations within the RACHNA team, a revised strategy was put in place. It consisted of the following elements:

A greater emphasis on a few, more effective technical interventions

The list of technical interventions was revisited in the light of more recent evidence, and it was resolved that the program would focus for the remaining

[23] This relationship between poor recording and poor service coverage is by no means consistent. It is commonplace to find service providers maintaining apparently excellent but made-up records, and service providers maintaining poor records but in fact performing very well in actual work. Where the listing of eligible women and children is grossly incomplete, though, methodical tracking is unlikely to be feasible.

period of INHP primarily on interventions that had the highest likelihood of producing positive child health and nutrition outcomes. For instance, the focus during the antenatal period on achieving better neonatal outcomes would be emphasized; or a concerted effort would be made to increase the amounts of home-available, cereal-based meals fed to children in the 6-11 months age group, rather than a more generalized promotion of infant feeding.

Emphasis on strengthening the AWW and ANM

Rather than expect diffusion to take best practices – and the technical interventions through them – to full scale, it was recognized that a more direct and reliable mechanism was necessary. From the experience of the previous year or so, it was clear that frontline workers of ICDS and health programs (AWW and ANM) were capable of increasing their outreach, given adequate guidance. It was decided to help the programs maximize the impact potential of these workers. The main approaches here would be to help improve their tracking systems and encourage them to make timely home visits at crucial periods during pregnancy and in the first two years after birth, to take the right message to the right person at the right time. Such approaches seemed to have paid the best dividends in producing positive outcomes in the previous year.

The ICDS sector as the key to quick scaling up

The ICDS sector supervisor was identified as the lynchpin for the full scale-up. Supervisors in ICDS are mostly women with a higher educational background than the AWW. Given her direct links with frontline workers, if she could be helped to utilize her points of interaction with AWW wisely – in sector meetings and during her field visits – interventions could reach full scale almost immediately. She was also more accessible. There were 5-6 supervisors in a typical block, and about 50-100 in a district depending on its size, who together covered the entire population where ICDS was programmed. This appeared to be a number that the small INHP district teams could handle directly, with a little bit of extra help. Also, this was a cadre that INHP teams were most familiar with. It was, therefore, decided that the supervisor was a key level of engagement with the systems. Other approaches would be tied to this.

Opportunities for strengthening supervision at the sector level

Sector meetings, the monthly meetings of ICDS supervisors with their AWW, which otherwise had a predominantly administrative agenda, were marked for exploration as forums which could provide opportunities for meaningful focus on critical interventions, as well as for convergence with the health programs, by inviting the relevant ANMs to participate in these monthly meetings. During their *field visits* to *Anganwadi* Centres (AWC), supervisors tended to spend the available time on administrative tasks rather than programmatically meaningful ones. The experience from the previous year had suggested that it was possible to get supervisors to begin to focus on issues more relevant to achieving outcomes. Both, sector meetings and field visits could potentially be structured better, using guidelines and checklists.

The role of Health Programs

It was evident that the health department programs too would benefit from a restructuring of supervisory priorities, particularly the supervision of ANMs. There

were complexities here that would have to be dealt with, though. The scope of the Health Programs was far wider than child health and nutrition, but INHP did not have the scope to open up more fronts. The cadre that was meant to supervise ANMs – the LHVs – was being "phased out" in many states, the LHVs were available in very small numbers, and often had more roles to play in the PHC than in the field. As a Result, the supervisory hierarchy within the health programs was not as amenable to utilization for strengthening outreach activities as the ICDS hierarchy appeared to be.

The roles of CDPOs and Medical Officers

Child Development Project Officers (CDPO) – the ICDS block level program managers, and Medical Officers of PHCs (or Block Medical Officers) were the next higher level after supervisors in their respective program hierarchies. It was recognized that they would play crucial roles in taking over the task of sustaining the momentum if the rest of the strategy worked according to plan, but they were overloaded with other duties to be able to devote the large amount of time required for the actual task of developing a stronger supervisory system. They were therefore less intensely involved, although generally informed about the work at sector levels and below.

The Best Practices

The emphasis on the four best practices shifted from insistence on their use to them being a part of a menu of options available for solving specific operational problems. The NHDs continued to be promoted, but with primary insistence on fixed-day, fixed-site service provision by the ANM at the AWC, and a greater emphasis on strengthening name-based recording and tracking mechanisms that ensured improved service coverage. The existing Change Agents would continue to be engaged, but with lesser expectations. The pace of recruiting and training fresh ones would be much reduced, and would be planned at the discretion of the respective ICDS and Health departments in the states.[24] The BLAC would continue to be strengthened and used as an important point of convergence for review and planning. Social maps and self monitoring tools would be used where found effective.

The roles of NGOs

Local NGOs, extensively utilized in the DS and for training purposes, were an important resource, already familiar with most elements of the program. The skills of most NGO staff lay primarily in field work, and were particularly familiar with the field level functionaries of the ICDS program. It was decided to reorganize their work and give them key roles in helping strengthen supervision, and it was recognized that this would demand a somewhat different set of skills that what they had cultivated thus far. Selected field staff would be trained in helping facilitate sector meetings along with ICDS supervisors, to help block level coordination and to conduct field visits to villages alone or with ICDS supervisors to help monitor progress.

Ongoing Capacity Building

It was determined that the best way to sustain implementation momentum was to engage frontline workers in monthly capacity building activities using

[24] Several state governments (either ICDS or the Health Department, or both) found the Change Agents a very attractive proposition, and some wanted INHP to rapidly expand the intervention to more areas within the state. The considered opinion within INHP was that, while such volunteers had potential, it was difficult to see how ICDS and Health program functionaries could put in the effort required to extract consistent performance and to sustain the volunteers within the project life of INHP-II. It was therefore determined that decisions related to level of effort to recruit and utilize Change Agents be left to individual states.

existing opportunities such as sector meetings, than resort to further rounds of classroom training. This would be facilitated by NGO personnel who supported the sector meetings.

The role of communities in monitoring

Since the experience thus far had not provided clear strategies for community involvement that could provide the necessary sharpness of focus to produce results and at the same time be feasible to establish at scale, it was decided that INHP teams would continue to explore mechanisms and use them as appropriate.

Monitoring processes vs. monitoring outcomes

Changes in approaches to implementation called for changes in the manner in which the program was monitored. It had become obvious that while it was necessary to track activities and budgets, closer attention to monitoring outcomes was more likely to produce outcomes. There was no easy way to do this. The key lay in ensuring that supervisory questions asked at each level focused on whether outcomes were being achieved. It was decided to make elaborate use of certain critical levels of interactions to achieve this focus: interactions between supervisors and frontline workers, between NGO facilitators and ICDS and health field staff, and between INHP district teams and the NGOs as well as system functionaries. It was recognized that eventually, as INHP and NGOs would one day withdraw, these monitoring functions needed to be taken over by higher levels of the program hierarchy, and possibly by community representatives. The possibility of tracking outcomes such as service coverage and behavior change through independent assessments similar to the RAPs or "mini-RAPs" was also considered. The internal project HMIS, described earlier, was difficult to quickly change, but was driving the program, and any change in the strategy would need a corresponding change in the HMIS.

Phase 4: Execution and Monitoring Full Scale Implementation
Early 2005 to Early 2006

Several months in early 2005 were spent in detailing out the revised strategy. Thereafter, as it was rolled out, further lessons were learnt and utilized.

At the outset, in mid-2005, a joint letter from the Secretaries of both the ministries, Women and Child Development and Health and Family Welfare of the Government of India was addressed to state governments encouraging them to seek the support of RACHNA to strengthen key activities of the programs to render them more effective in achieving outcomes. This facilitated the process of decentralized engagement with key officials at state and district levels. The rest of this section details the different components of such engagement.

Tools and their use

The use of a number of existing tools such as service registers was refined and a small number of fresh tools were provided to field staff to help enhance program effectiveness.[25]

[25] Generic versions of most of the tools referred to in this section are included, along with descriptions and guidelines for use, in a folder named *Toolkit: Tools Used to Strengthen Program Implementation in INHP-II*, in this series.

The proper use of existing registers

Existing *service registers* enabled AWWs and ANMs to track services they provided to individual women and children, once they understood how these name-based registers could be used. This understanding was by no means common or uniform in practice, as one might intuitively imagine. Besides the problem of low levels of literacy among AWWs in some states, there were other persistent problems: failure to update survey information, delays or failures in adding new births to service registers, making fresh inventories of women and children at each immunization session rather than following cohorts of listed individuals over time, inability to perform the date arithmetic needed to identify children due for immunization services on a given immunization day, the failure to reconcile information in the registers of the ANM and AWW, and so on. These problems were pervasive enough to be found in pockets of virtually every district, and were, even anecdotally speaking, far more common causes of poor coverage than any deliberate caste or class based exclusions by service providers. Correcting these to make the registers more useful became a focus of sector meetings and field visits. The practice of the AWW and ANM joining together to make "due lists" prior to immunization days became a focused priority in many districts.

Tool for AWW to plan and conduct timely home visits

There was no mechanism to track caring and feeding practices of women and children in the existing set of registers and reports. The only mechanism for recording activities related to behavior change was a "home visit diary" where the AWW ritually listed five names daily, as record of execution of a prescribed activity, and there was the odd column in reports about health education given to groups. There was no structured mechanism to help the AWW decide which five families to visit on a given day. The home visit diary was reorganized into a "home visit planner-register". The columns of the register were various critical periods during pregnancy through to about 18 months of age and the rows were individual pregnant women and their children. The relative priority of the different periods was explained during training, and a minimum frequency of visits during each period was suggested. The AWW could use this record daily for planning visits to those who needed them most. This planner- register was accompanied by a "ready reckoner" which provided a brief list of talking points to be covered during contact with families at each critical period (Boxes 10.6 and 10.7).

Tools for organizing and facilitating sector meetings

This consisted of a comprehensive menu of questions that the supervisor could ask the group of AWW (and ANM) in a monthly sector meeting, designed to bring critical issues into focus, and a set of guidelines for structuring the meeting. The topics covered included all maternal and child health and nutrition issues, while recognizing that issues related to other areas covered by the ICDS, such as pre-school education could be similarly positioned and supported. The tool included suggestions for recording key observations and preparing a brief report. This was accompanied by guidelines that suggested ways of optimizing on the time available in the meetings, to make available at least two hours for discussion of substantive program issues as described. Such restructuring of sector meetings is discussed in detail later.

Box 10.6 Suggested Format for AWW's Home Visit Planner-Register

शिशु एवं बाल पोषण विषयक (गृह भ्रमण) परामर्श तालिका–1

पंजीकृत गर्भवती महिला का नाम	प्रसव की सम्भावित तिथि/माह	परामर्श 1 (4–5 माह वाली गर्भवती महिलाएं)	परामर्श 2 (6–7 माह वाली गर्भवती महिलाएं)	परामर्श 3 (8–9 माह वाली गर्भवती महिलाएं)	प्रसव तिथि (जन्म तिथि) व बच्चे का लिंग	शिशु का नाम	परामर्श 4 (प्रसव के तुरन्त बाद दो दिन के भीतर)	परामर्श 5 (एक माह तक के नवजात शिशुओं के परिवार)	परामर्श 6 (5–6 माह के शिशुओं के परिवार)	परामर्श 7 (7 माह के शिशुओं के परिवार)	परामर्श 8 (अतिकुपोषित बच्चे का परिवार)	परामर्श 9 (9 माह से 11 माह के शिशुओं के परिवार)	परामर्श 10 (12 माह से दो वर्ष तक के बच्चों के परिवार)
		तिथि : विवरण :	तिथि : विवरण :	तिथि : विवरण :			तिथि : विवरण :	तिथि : विवरण :	तिथि : विवरण :	तिथि : विवरण :	तिथि : विवरण :	तिथि : विवरण :	तिथि : विवरण :
		तिथि : विवरण :	तिथि : विवरण :	तिथि : विवरण :			तिथि : विवरण :	तिथि : विवरण :	तिथि : विवरण :	तिथि : विवरण :	तिथि : विवरण :	तिथि : विवरण :	तिथि : विवरण :
		तिथि : विवरण :	तिथि : विवरण :	तिथि : विवरण :			तिथि : विवरण :	तिथि : विवरण :	तिथि : विवरण :	तिथि : विवरण :	तिथि : विवरण :	तिथि : विवरण :	तिथि : विवरण :
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माँ और बच्चे के स्वास्थ्य और पोषण के आवश्यक संदेश

गर्भ का चौथा – पाँचवां माह

- आयरन की 100 गोलियां ए.एन.एम. से लें और एक गोली रोज खायें, यह माँ बच्चे को खून की कमी से बचाती है।
- टिटनेस के दो टीके एक माह के अन्तर से लगायें। इससे माँ बच्चे दोनों को जान लेवा टिटनेस से सुरक्षा मिलेगी। टीकाकरण कार्ड संभालकर रखें।
- भोजन की मात्रा बढ़ायें, इससे माँ और बच्चे दोनो के पोषण की जरूरत पूरी होगी। खाने मे हरी सब्जी, दाल जरूर खायें।
- ए.एन.एम./नर्स/डाक्टर से जांच करायें, इससे खतरे के लक्षण समय से पहचाने जायेगे और उचित देखभाल हो पायेगी।
- रात में 8 तथा दिन में 2 घंटे आराम करें।

गर्भ का छठा – सातवाँ माह

- आयरन की गोली खाना जारी रखें।
- टिटनेस के दो टीके अगर न लगे हों तो एक माह के अन्तर से दो टीके लगवायें।
- भोजन की ज्यादा मात्रा ज्यादा बार खाना जारी रखें।
- ए.एन.एम./नर्स/डाक्टर से जांच करायें, इससे खतरे के लक्षण समय से पहचाने जायेंगे और उचित देखभाल हो पायेगी।
- प्रसव कहाँ कराना है इसके बारे में सोचें और निर्णय लें।
- यदि घर में प्रसव कराना है तो प्रशिक्षित दाई से प्रसव करायें।
- साबुन, कपड़ा, नया ब्लेड व धागा तैयार रखें।

गर्भ का आठवाँ – नौवाँ माह

- प्रसव अस्पताल में या प्रशिक्षित दाई से करायें। पाँच सफाई का ध्यान रखने में माँ और बच्चा सुरक्षित रहते हैं।
- जन्म के तुरन्त बाद बच्चे को पोंछ कर साफ नरम सूती कपड़े में लपेट कर रखें, इससे बच्चे की गर्मी बनी रहती है और वह जानलेवा संक्रमण से बच सकता है।
- सुरक्षित प्रसव के लिये पाँच सफाई का ध्यान रखना जरूरी है। ये पाँच सफाई हैं - नया ब्लेड, नया धागा, साफ स्थान, साफ हाथ एवं साफ कपड़े और नाल पर कुछ ना लगायें।
- बच्चे के जन्म के तुरन्त बाद माँ का पहला, पीला गाढ़ा दूध पिलायें, इससे बच्चे को रोगों से लड़ने की शक्ति मिलती है।
- माँ का दूध देने से पहले या बाद में पानी, घुट्टी, बकरी का दूध, अन्य दूध या शहद इत्यादि बिल्कुल न दें, इससे बच्चा बीमार पड़ सकता है।

प्रसव से जन्म के एक माह तक

- प्रसव अस्पताल में या प्रशिक्षित दाई से करायें। पाँच सफाई का ध्यान रखने में माँ और बच्चा सुरक्षित रहते हैं।
- जन्म के तुरन्त बाद बच्चे को पोंछ कर साफ नरम सूती कपड़े में लपेट कर रखें, इससे बच्चे की गर्मी बनी रहती है और वह जानलेवा संक्रमण से बच सकता है।
- बच्चे को तुरन्त माँ का पहला, पीला गाढ़ा दूध पिलायें। केवल माँ का दूध बार-बार पिलाते रहें, बीमार व कमजोर बच्चे को ज्यादा बार पिलायें, जिससे बच्चे को पूरा पोषण मिलेगा।
- बच्चे को पानी, घुट्टी, अन्य दूध, शहद इत्यादि बिल्कुल न दें।
- बीमार व कमजोर बच्चे की पहचान कर उनका समय से अस्पताल में इलाज करवायें जिससे उन्हें मरने से बचाया जा सके।
- बच्चे का वजन करायें, यदि वह 2.5 किलो से कम है तो विशेष देखभाल की आवश्यकता है।
- जन्म के बाद के पहले टीकाकरण दिवस पर बी.सी.जी. का टीका लगवायें।
- माँ से पूछें कि गर्भावस्था के दौरान कितनी आयरन की गोलियां खायीं।

1–5 माह के शिशुओं के परिवार

- जन्म से 6 माह तक के बच्चे को सिर्फ माँ का दूध दें, पानी भी नहीं, इससे बच्चे को पूरा पोषण मिलेगा साथ ही वे बाहरी चीजों से होने वाली बीमारियों से बचेगा।
- डेढ़ माह, ढाई माह और साढ़े तीन माह पर डी.पी.टी. व पोलियो के टीके बच्चे को लगवाकर उसे जानलेवा बीमारियों से बचायें।
- जन्म से 6 माह तक केवल माँ का दूध पिलाने से माँ का गर्भ नहीं ठहरता है। इसमें ध्यान यह रखना है कि माँ सिर्फ अपना दूध पिला रही हो और उसे माहवारी शुरू न हुई हो।
- बच्चों के बीच कम से कम तीन साल का अन्तर रखने से माँ और बच्चे दोनों का स्वास्थ्य अच्छा रहता है। परिवार नियोजन के साधन व उसकी जानकारी आंगनवाड़ी कार्यकर्ता/ए.एन.एम. से प्राप्त कर सकते हैं।
- बच्चे का नियमित वजन करायें।

6–8 माह तक के शिशुओं के परिवार

- बच्चे के सही विकास हेतु सातवां माह शुरू होते ही माँ के दूध के साथ खाना खिलायें।
- घर पर बनी रोटी (मसली/नर्म), दाल, चावल, खिचड़ी, दलिया, सूजी की खीर, उबला आलू, केला आदि मसलकर खिलायें। खाने में तेल/घी मिलाकर खिलायें।
- एक छोटी कटोरी से खाना खिलाने की शुरूआत करें धीरे-धीरे इसकी मात्रा बढ़ायें, आठवें माह तक दिन भर में दो कटोरी* खाना अवश्य खिलायें।
- खाने की मात्रा कम होने पर बच्चा कुपोषण एवं बीमारियों का शिकार हो सकता है।
- परिवार नियोजन संबंधी परामर्श लें।
- शिशु का नियमित वजन कराने की सलाह दें एवं उम्र के अनुसार वजन वृद्धि सम्बन्धित परामर्श दें। इस आयु में शिशु का वजन प्रतिमाह 500 ग्राम बढ़ना चाहिये।

9 माह से 11 माह तक के शिशुओं के परिवार

- माँग अनुसार दिन रात शिशु को माता अपना दूध पिलाती रहे।
- शिशु को ऊर्जायुक्त आहार दें। घर पर बने आहार जैसे- रोटी, दाल, खिचड़ी, दलिया आदि दें। खाने में घी या तेल मिलायें। मौसमी फल भी दें। दिन में कम से कम तीन कटोरी* खाना अवश्य खिलायें।
- खसरे का टीका लगवायें व विटामिन "ए" की पहली खुराक पिलवायें।
- बीमारी के दौरान स्तनपान ज्यादा करायें ऊपरी आहार जारी रखें व बीमारी के बाद भोजन की मात्रा भी बढ़ायें।
- शिशु का नियमित वजन कराने की सलाह दें एवं उम्र के अनुसार वजन वृद्धि सम्बन्धित परामर्श दें।
- इस उम्र में शिशु का वजन प्रतिमाह 300 ग्राम बढ़ना चाहिये।
- परिवार नियोजन सम्बन्धित परामर्श लें।
- प्रजनन संबंधी रोग के लक्षण दिखते ही अपना उपचार करायें।

12 माह से दो वर्ष तक के बच्चों के परिवार

- माँग अनुसार दिन रात शिशु को माता अपना दूध पिलाती रहें।
- शिशु को ऊर्जायुक्त आहार दें। रोटी, दाल, खिचड़ी, दलिया आदि दें। खाने में घी या तेल मिलायें। मौसमी फल भी दें। बच्चे को दिन में कम से कम चार कटोरी* भोजन अवश्य खिलायें।
- विटामिन "ए" की दूसरी खुराक, डी.पी.टी. पोलियो बूस्टर के साथ बच्चे को दिलवायें तथा तीसरी से पाँचवी खुराक छः-छः माह के अन्तराल पर दिलवायें।
- बीमारी के दौरान स्तनपान ज्यादा करायें ऊपरी आहार जारी रखें व बीमारी के बाद भोजन की मात्रा भी बढ़ायें।
- एक वर्ष के बाद बच्चे को 100 आयरन की, बच्चों वाली गोली रोज एक खिलायें। इसे चीनी-पानी के साथ पीसकर दे सकते हैं।
- शिशु का नियमित वजन कराने की सलाह दें एवं उम्र के अनुसार वजन वृद्धि सम्बन्धी परामर्श दें। इस उम्र में बच्चे का वजन प्रतिमाह 200 ग्राम बढ़ना चाहिये।
- परिवार नियोजन सम्बन्धी परामर्श लें।
- प्रजनन सम्बन्धी रोग के लक्षण दिखते ही अपना उपचार करायें।

अति कुपोषित बच्चे के लिए

- बच्चे का नियमित वजन करायें एवं उसकी उम्र के अनुसार वजन वृद्धि पर विशेष ध्यान दें।
- चिकित्सीय सलाह लें एवं उपचार करवायें।
- ऊर्जायुक्त आहार दें। दाल, खिचड़ी, दलिया इत्यादि दें। घी व तेल तथा चीनी अवश्य मिलायें।
- बच्चे को अधिक मात्रा में (अलग कटोरी चम्मच से) भोजन करायें। ऐसा वजन के सामान्य होने तक करें।
- बीमारी के दौरान स्तनपान व ऊपरी आहार जारी रखें। बीमारी के बाद भोजन की मात्रा बढ़ायें।

*लगभग 100 ग्राम की कटोरी।

अधिक जानकारी के लिए अपने गाँव की आंगनवाड़ी कार्यकर्ता/आशा/ए.एन.एम./सरकारी अस्पताल से सम्पर्क करें।

Tool for structuring supervisor's field visits

This tool had two parts. The first consisted of guidelines and suggested questions for the interaction between the supervisor and the AWW. The second was a menu of questions for interviewing selected families during a small number of home visits, classified by age group. This tool also included space for recording and summarizing observations.

Tools for NGO staff

The NGO staff who helped facilitate sector meetings and monitor progress at the community level used tools similar to the ones used by supervisors. In addition, they submitted a detailed monthly report to the INHP district team.

The characteristic of all these tools and related processes was that they were designed primarily to provide the most relevant information needed by the user at each level to be able to execute her/his role effectively; they were not designed for reporting anything substantial upwards, apart from the monthly report of the NGO. Thus, tools for the AWW got them the information they needed to track services and behaviors of individual women and children, but they did not produce new reports based on this information. Their supervisors obtained the same information by proactively and pointedly asking questions of the AWW, not by collecting and collating numbers in reports. In doing this, the attempt was to move the work style of the field functionaries of ICDS and health from a predominantly "complete-the-paper-work" approach to a more responsive problem-seeking-solving approach. An important implication was that, while these tools apparently added to the number of records maintained by the frontline workers, they actually added to functional effectiveness without resorting to making elaborate new reports.

Early versions of such tools were already in use in some of the panel districts, and experience from other districts too had thrown up good ideas. These were refined to put together a set of generic tools and sent out to all states and districts for local adaptation and use. The generic versions of these tools are included in a separate folder as a part of this series of working papers. These versions were variously adapted by different states. Their use was not uniformly intensive. About three-fourths of AWW interviewed at the time of the endline survey reported that they were using the home visit planner/register. Quantitative estimates of the use of the supervisors' tools are not available, but most sector meetings were restructured to place greater emphasis on program elements as envisaged, and most of them were jointly facilitated by NGO staff for many months at least, starting in mid-2005. The lack of uniformity extended to the use of the new tools for generating formal reports, as well: some INHP state teams consciously chose to introduce such reports, believing that such reports would increase accountability.

After the Final Evaluation of RACHNA in April 2006, an elaborate qualitative assessment of the use of these tools and processes was undertaken by an independent team of experts commissioned by the USAID. The final report of the assessment[26] provides useful insights into how the tools and processes actually worked in the field. A summary of the relevant findings of this study is provided in the accompanying box (Box 10.7).

[26] Available from the CARE-India and FANTA websites and on request.

Box 10.7: Salient findings from the INHP Tools Assessment Study

This qualitative study examined the contribution of the INHP tools and processes to three fundamental program approaches that INHP aimed to influence: tracking and inclusion of all women and children for services, strengthening supervision, and home visits for facilitating behavior change. It also examined factors influencing the successful use of the tools and processes. It used qualitative assessments conducted on a purposive sample of respondents which included functionaries from different levels of the systems, drawn from four districts in four different states. The sample was designed to include strong implementation sites, to ensure that poor implementation did not impede an understanding of what made the tools work or not work, and how. The study was not designed to assess the extent of use of the tools and processes, or the extent of strengths and limitations observed in their use.

The main findings that are salient to this paper were:

- Concerning tracking and inclusion, both the AWW and supervisor used the standard service registers to identify people for services, in preference to any other methods.
- In strengthening supervision, the relationship between the AWW and her supervisor had been bolstered by the invigorated sector meetings. Through the sector meetings, the supervisor had an opportunity to be seen as someone who could facilitate peer learning and actively help to solve problems. During these meetings, the supervisors interacted with AWWs as a group and often individually. Combined with the Supervisor's Checklist, the sector meeting had strengthened the connections supervisors have with AWWs.
- The commonest constraint to the use of the supervisor's field visit checklist was the time needed to completely run through the checklist. The other limitation noted of the checklist was that it covered only a part of the duties of a supervisor, related to maternal and child health and nutrition. It did not cover pre-school education, for instance.
- There was wide agreement that the content and quality of sector meetings had improved since the introduction of the sector meeting guidelines, and even if the guidelines were not referred to, the objectives of the guidelines were being met.
    - Sector meetings had changed from simply a time to submit reports to a time for capacity building, or as one respondent remarked, "...completely shifted from reports collection to MCH services". Most AWWs now came with their registers completed (a change from before) which allowed more time to discuss substantive issues.
    - During the discussion time, most of the topics were related to communication around specific behaviors and "convincing people".
    - Some supervisors (often with the NGOs) established a theme for each month so that over the course of a few months, key topics are covered. Other supervisors reviewed the problems that came up the month before and build an agenda around those issues.
    - The conduct of the meetings varied from place to place and by the supervisor's own facilitation skills. Some meetings included a more didactic session on specific topics. The supervisors used information, education, and communication (IEC) materials to teach the AWWs about specific topics. Other meetings promoted a peer learning approach where AWWs shared how they solved problems that other AWWs were facing. Some supervisors made use of role plays for practicing how to communicate various issues to mothers.
    - In the districts where sectors of ICDS and health were aligned (described elsewhere), the MO took the lead on capacity building. An increase in such closer coordination between ICDS and health program staff was reported. The supervisors' tools were more widely adapted and modified than the home visit tool.
- Regarding home visits, both the AWW and the supervisors did prioritize their attention correctly most of the time, guided by the home visit register and the ready reckoner, as well as the supervisors' field visit checklist. The tools and processes, including the sector meetings, drew attention of the functionaries to the principle of "the right message to the right person at the right time". Although the home visit diary/register/planner was not always an accurate log of the actual visits conducted, it did serve as a reference.

(Contd...)

There was much evidence that the home visit diary and Supervisor's Checklist positively influenced the way the AWWs and supervisors did business. Supervisors recounted distinct changes since the Supervisor's Checklist had been in use. During one FGD with supervisors, they recalled that earlier they were not able to prioritize which home to visit during their AWC visits. They were not conversant with the "life cycle" or how to prepare a mother for the next time period in the cycle. They felt the checklist helped them to plan their visits better. Many of the supervisors, AWWs and some CDPOs concurred that previously the main focus of a supervisor's visit to an AWC was to check the food stocks and review the pre-school enrolment and attendance. In addition, she might have reviewed the registers, and then signed the AWC visitor book and left. Most of this was accomplished in less than 30 minutes. These 'flying visits' still occur but they are designated as such by the supervisors themselves with the intent of having a follow-up visit when they spent adequate time "completing" the supervisor's checklist and conducting home visits. These longer visits take a few hours to complete and include follow-up with the AWW after a home visit to provide constructive feedback.

Restructuring sector meetings

Supervisors in ICDS are expected to conduct one sector meeting (or in some states, two meetings) each month where all AWWs under a supervisor gather to submit their monthly reports and to transact other programmatic and administrative business. This sector meeting was sought to be strengthened. The received wisdom about sector meetings was that they were hopelessly overloaded with administrative work, that the AWW and the supervisors could barely get their reporting done in the available time, that these meetings never start or finish on time and that it was going to be very difficult to restructure a government meeting. Some of this turned out to be true, but in most districts, CDPOs and DPOs were open to the idea of introducing programmatic content into sector meetings, mostly understood as ongoing training, and to having a helping hand from NGO facilitators in conducting sector meetings. Many of them were considerably aware that the ICDS program was, since many years, missing precious opportunities by reducing sector meetings to administrative rituals. However, if there had been earlier initiatives from within the system to do things differently, they had obviously met with limited success. It took a little patient dialogue with supervisors and CDPOs in a few districts at the outset to understand how meeting time was being spent, and the supervisors themselves came up with simple solutions for saving time. Most commonly, the solution was to "precook" much of the paper work related to the reporting, so that the supervisor spent just a short while at the beginning of the meeting collecting or collating reports from individual AWW, saving substantial time for other agenda. A common realization was that the meeting had not thus far been organized more fruitfully simply because there had been little initiative to do so. Eventually, it was common across all states for sector meetings to set aside 2-3 hours for programmatic discussions. What was difficult to alter was the problem of AWW coming in and going off at different times, which was determined by public transport available from their villages to the meeting venue.

Another matter that was initially greeted with skepticism was the possibility of ANMs actually attending ICDS sector meetings. This posed distinctly greater barriers than the problem of finding discussion time. It required both departments to agree upon the utility of such an arrangement, and for both to overcome mutual historical animosity. The overlap of administrative boundaries, discussed

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below, was another practical barrier. Eventually, in many districts, it became possible for the ANM to attend these sector meetings, probably due to the pressure from multiple quarters for the two programs to work closely together, often referred to as "convergence", and the realization by enlightened leadership of both departments that such working together was bound to be beneficial to the larger cause. One example of the more visible consequences of ANM participation in sector meetings was the way issues related to scheduling and holding of NHDs/outreach immunization sessions were often discussed and resolved locally. Data related to the participation of ANMs in ICDS sector meetings is presented later, in the results section.

Realigning administrative boundaries to facilitate convergence

When ICDS draws boundaries for its sectors or projects,[27] or when the health department draws boundaries for the health sub-center areas under each ANM or LHV or PHC, the concerned department rarely consults the other. Consequently, it is common to find that, for instance, and ANM's sub-center villages overlap two different sectors of the ICDS program, or the villages covered under one ICDS sector fall in the areas of two or more LHVs, or worse, two PHCs. This renders coordination between the concerned functionaries cumbersome and time-consuming, and overall, frustrating. These problems, as old as the programs, came to light clearly during the course of INHP when intensive efforts were made to facilitate meaningful convergence. During one such dialogue at a joint ICDS-Health workshop in one of the project districts, functionaries from both departments put their heads together and realized that it was possible to redraw the administrative boundaries of either or both departments, and considerably mitigate if not eliminate the problem. The idea and its feasibility were appealing, particularly to the district-level leadership, and especially the district administration. The task involved getting into painstaking detail of the lay of the land, and some give and take. Once the first couple of districts had worked their way through the task, INHP teams found it increasingly easier to facilitate similar efforts elsewhere. Not every overlap could be corrected, but eventually several districts in several states undertook the effort, and achieved functional congruence of borders as this concept gained greater credence. For a given district, this is a one-time exercise, and removes one of the most visible barriers to effective coordination between ICDS and health programs for maternal and child health interventions, and facilitates such simple but useful mechanisms as the participation of ANMs in ICDS sector meetings, referred to above.

There were less ambitious solutions to this problem as well. At block level joint review meetings in certain districts, the review of monthly (or quarterly performance) was conducted on the basis of data collated from the frontline workers of the two departments, reconciled, and presented in a single sheet that showed hierarchically, under which sub-center, health sector and ICDS sector each village and AWC fell. Such presentations made it possible to move beyond disagreements on figures of service coverage, and quickly on to identifying and addressing gaps and reasons for the gaps.

[27] ICDS blocks are more correctly called Projects, each headed by a Child Development Project Officer (CDPO)

The roles of external facilitators: INHP and NGO teams

Effectively, for most districts under INHP-II, budgets permitted one NGO facilitator per block. The project determined that it was possible, under the refined implementation strategy, for the functional divisions between different members of the INHP district teams (the most peripheral of the officers managing the project, mentioned in an earlier section) to be partly subsumed to geographic sharing of responsibilities. The distribution of INHP District Teams was such that, barring instances of major vacancies in staff positions, each district team member had an average of 3-4 blocks to oversee, and thus about 3-4 NGO staff to be supported by her or him. Each such unit of an INHP district team member and 3-4 NGO staff interacted with the 3-4 CDPOs, 20-25 supervisors and 8-10 PHCs in these blocks. Their main task was to find ways of helping these functionaries sustain the attention on frontline workers (AWW and ANM) on activities and processes that were most likely to improve child health outcomes. They adapted the tools mentioned above for local use, provided training in their use, and helped facilitate focused interactions between supervisors and AWW/ANM in sector meetings and field visits. Many districts conducted a round of "mini-RAPs" during this period, and the findings were used to inform planning in the district.

Internal Monitoring Mechanisms

Ideally, much of what has been described above should have been thought through and executed as well as monitored by the leadership at block and district levels in the ICDS and Health programs. In reality, there was not sufficient time in the last year of INHP-II to achieve this level of maturity of interventions. The level of participation of the leadership in these processes was variable, and more often than not, CDPOs and Medical Officers were happy to give their approval for the work and also happy that there were external facilitators who could manage the implementation. In most districts, it was the internal monitoring mechanisms of INHP, acting through INHP district teams and partner NGOs that sustained the interventions.

The basic structure of the MIS established since early 2003 was not disturbed, since past experience indicated that it would take many months of effort to change it from the grassroots levels up. Thus, basic process indicators continued to be reported from the entire universe of AWC, and provided useful information about NHD, immunization sessions, use of vitamin A, etc. The tools described above, particularly the NGO monthly report, provided a sense of progress to relevant levels within INHP in terms of the refined strategies.

The attempt to minimize recording and reporting on the basis of the new tools has been mentioned earlier. From the outset, this was not uniformly accepted or followed, either by INHP teams or by ICDS teams, possibly because it was counter-intuitive (how can work be considered done if there is no written report?) and engendered a fear of losing control in a strongly hierarchical system. There was also a strong belief that writing reports enhanced accountability. Thus, different states and districts had different kinds of reports produced from the tools. Until the end of the project, the predominant phrase used was "filling the tools", not "using the tools". Compared to existing reports of the ICDS program, however, these were less burdensome, the information handled was more directly outcome-oriented and the reports were more regularly reviewed and used.

Eventually, the purpose of refining internal monitoring mechanisms was to help introduce denominator-based analysis for planning and action, and help front line workers and supervisors link daily activities to outcomes and program objectives. As discussed in later sections, it was difficult to assess the extent to which this actually happened, but field observations suggest this was among the important factors that drove change, and that, this transformation in thinking at middle-management levels holds the key to sustain program effectiveness.

Community monitoring mechanisms

The need for, and value of, communities participating with enough intensity to be able to monitor health services delivery was recognized from the outset, and various attempts were made in every district to establish mechanisms to foster this. Mostly, participation of women's groups and members of PRI was sought at the village level, after providing orientation or training as feasible.

In the ELS and some of the DS in the early part of INHP-II, the process of women's groups using the medium of social maps to review service coverage and behavior change was successful to an extent, but could not be replicated without intense facilitation. The participation of members of the community, including PRI members, in NHD was widely practiced, and this was an indicator in the MIS. How consistently and predictably such participation influenced the conduct of NHD is not clear, but presumably, it could have had positive effects on the regularity of the conduct of NHD as well the appropriate distribution of food supplements during the NHD. Similarly, in many districts, PRI members did participate in the block level program reviews (BLAC). Starting with Chhattisgarh, several states attempted to introduce health and nutrition issues in the agenda for the Gram Sabha, the equivalent of a village general body meeting, where the entire village participated. In West Bengal, the Panchayat's role is integral to the work of different departments involved in the development sector and appears to have played in a key role in bringing about functional convergence between ICDS and health departments. One of the most methodical ways of involving PRIs was attempted in one of the districts of Chhattisgarh, where an official instruction was sent to all panchayats, listing a set of indicators that each village panchayat must monitor regularly. However, the short term consequences of these efforts on conventionally measured health indicators are difficult to judge.

A common lesson from these efforts was that, with sufficient and sustained inputs, it was possible to get community groups to pay attention to certain gross indicators such as the attendance of workers for example, regularity of ANM's visits to the village, or availability of supplies e.g., food supplements at AWC or Vaccines with ANM. It was not clear, however, if there were scalable ways of monitoring softer elements such as the quality of services or technical aspects such as cold chain maintenance. The magnitude of effort needed to get groups of community members to understand the logic of implementation strategies and interventions so as to intelligently oversee the work of the systems, far exceeds what any external facilitator can normally afford to invest. The project continues to explore this area.

The next section presents evidence about the progress of outcomes over the life of the project, and how the processes described so far were related to outcomes.

Results: Evidence from the INHP Quantitative Surveys

A number of different surveys conducted over the course of the project provide information about changes in key outcomes and processes in the project area: the baseline and end-line surveys (2001 and 2006), the three rounds (2003 to 2005) of rapid assessments (RAPs) in one district each in the eight program states, and two evaluation research (ER) studies (baselines and endlines in 2003 and 2006, respectively) conducted in one program district each in Uttar Pradesh and Andhra Pradesh, along with non-CARE districts as controls. Some of these surveys included service providers' interviews. The methods used in these surveys are described in many of the papers in this series, and presented in detail in the paper on the methodology of assessments.[28] The respondents for these surveys were mothers of infants 0-23 months old. Information related to pregnancy, delivery, newborn care and feeding in the first six months was usually gathered from mothers of infants 0-5 months old, and feeding and immunization related information from mothers of infants 6-23 months old. Sample sizes and sampling methods in most instances permitted detection of a difference of 10 percentage points or more across rounds of surveys, or between groups, across almost the whole range of indicators and estimates. This was considered the minimum difference necessary to be programmatically meaningful for most purposes.

The program monitoring system internal to INHP-II did provide information about inputs and outputs from sources within the project, but these were not easy to interpret at aggregate levels. The qualitative assessments of INHP tools mentioned in the previous section provide insights into how the tools and processes used in the later part of INHP-II worked on the ground.

Detailed presentations of results can be found in each of the technical papers in this series.[29] This section pulls together the most important results from household surveys, and presents evidence of the extent of the contribution of the ICDS and health programs to these changes.

Health and Nutrition Outcomes During INHP-II

Changes in key indicators over time

Table 10.2 presents estimates from baseline and endline surveys for key service coverage indicators and indicators of practices related to child care and feeding. All estimates represent areas assisted by INHP. Statistical significance is not presented, with the understanding that programmatic significance is of greater concern in this context. The samples at the endline were designed to detect a difference of 10 percentage points from any baseline estimate, because a 10 percentage point change was considered the minimum necessary to be programmatically convincing. In some cases, the baseline samples were smaller, and thus had lesser precision than endline estimates, but in most cases, a

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[28] *Paper 2: Methods Used for Assessments*

[29] Detailed results can be found in *Paper 3: Enhancing Newborn Care; Paper 4: Changing Infant and Child Feeding Behaviors; Paper 7: Widening Coverage of Primary Immunization; Paper 5: Widening Coverage of Micronutrient Supplements Paper 6: Supplemental Feeding: It's Role in a Large Scale Maternal and Child Nutrition and Health Program; Paper 8: Deepening Access to Spacing Methods*

Table 10.2: **Coverage for Selected Outcome indicators, RACHNA Baseline vs Endline (2001-2006)**

Indicator	Andhra Pradesh			Chhattisgarh			Jharkhand			Madhya Pradesh		
	BL	EL	Diff	BL	EL	Diff	BL	EL	Diff	BL	EL	Diff
NEWBORN CARE												
n[1]	*192*	*670*		*172*	*703*		*150*	*590*		*172*	*614*	
Proportion delivered at home	55.2	30.6	**-24.6**	93.0	82.1	**-10.9**	76.7	84.9	**8.2**	93.0	67.6	**-25.4**
n[2]	*106*	*205*		*160*	*577*		*115*	*501*		*160*	*415*	
Use of "five cleans"	15.9	62.4	**46.5**	50.2	56.8	**6.6**	67.1	70.3	**3.2**	50.2	42.9	**-7.3**
Nothing applied to the cord	32.4	79	**46.6**	70.3	80.2	**9.9**	73	88.4	**15.4**	70.3	58.1	**-12.2**
Initiated breastfeeding within 2 hours of birth	44.4	74.1	**29.7**	31.9	67.1	**35.2**	7.2	60.1	**52.9**	31.9	52.6	**20.7**
Initiated breastfeeding within 2 hrs and not given prelacteals	36.8	67.7	**30.9**	7	61.1	**54.1**	0.9	52.8	**51.9**	7	41.3	**34.3**
NUTRITION												
n[3]	*192*	*670*		*172*	*686*		*150*	*590*		*172*	*614*	
EBF in previous 24 hours	69.1	79.4	**10.3**	80.1	83.4	**3.3**	58.6	89.8	**31.2**	80.1	82.4	**2.3**
n[4]	*561*	*760*		*564*	*680*		*623*	*645*		*564*	*689*	
Initiated semi-solids/solids between 6-8 months of age along with continued breastfeeding	47.8	61.2	**13.4**	43.8	65.1	**21.3**	63.8	72.1	**8.3**	43.8	58.2	**14.4**
n[5]	*351*	*468*		*371*	*384*		*443*	*437*		*371*	*409*	
Vitamin A1 dose (card+recall)	51.3	79.4	**28.1**	39.7	45.4	**5.7**	13.3	83.4	**70.1**	39.7	55.3	**15.6**
n[6]	*159*	*188*		*187*	*166*		*237*	*167*		*187*	*189*	
Vitamin A 2 doses (card+recall)	7.5	43.1	**35.6**	11.7	19.3	**7.6**	5.7	18.6	**12.9**	11.7	24.3	**12.6**
IMMUNIZATION												
n[5]	*351*	*468*		*371*	*384*		*443*	*437*		*371*	*409*	
Mothers who reported having received immunization card	74.7	92.2	**17.5**	36.2	46.1	**9.9**	42.6	89.5	**46.9**	36.2	67.8	**31.6**
DPT3 (card+recall)	87.4	94.5	**7.1**	51.5	67.4	**15.9**	34.9	71.3	**36.4**	51.5	76.5	**25.0**
Measles (card+recall)	70.7	84.1	**13.4**	46.5	55.4	**8.9**	32.8	86.8	**54.0**	46.5	64.9	**18.4**
Complete immunization (card+recall)	66.1	82.0	**15.9**	39.1	43.3	**4.2**	27.6	63.9	**36.3**	39.1	55.4	**16.3**

n[1] = Mothers of children 0-5 months old; *n*[2] = Children 0-5 months old born at home; *n*[3] = Infants 0-5 months old; *n*[4] = Children 6-23 months old; *n*[5] = Children 12-23 months old; *n*[6] = Children 18-23 months old; BL = Baseline survey; EL = Endline survey; Diff = Diff BL to EL

Orissa			Rajasthan			Uttar Pradesh			West Bengal			All India		
BL	EL	Diff	BL	EL	Diff	BL	EL	Diff	BL	EL	Diff	BL	EL	Diff
185	*690*		*221*	*623*		*253*	*614*		*197*	*634*		*1542*	*5138*	
88.1	81.9	**-6.2**	77.8	76.1	**-1.7**	81.0	76.1	**-5.0**	61.4	62.5	**1.0**	75.5	71.9	**-3.6**
163	*565*		*172*	*474*		*205*	*467*		*121*	*396*		*1202*	*3600*	
17.9	61.4	**43.5**	42.6	49.4	**6.8**	26.7	56.3	**29.6**	41	67.7	**26.7**	39.2	58.3	**19.1**
42.3	79.6	**37.3**	55.2	66	**10.8**	41.5	69	**27.5**	58.5	81.8	**23.3**	55.1	75.5	**20.4**
33.5	55.4	**21.9**	22.4	28.5	**6.1**	6.5	56.3	**49.8**	42.5	56.3	**13.8**	26.2	54.9	**28.7**
28.3	47.1	**18.8**	12.7	16.5	**3.8**	1.9	45.3	**43.4**	16.9	41.9	**25**	14.9	46.1	**31.2**
185	*690*		*221*	*623*		*253*	*614*		*197*	*634*		*1542*	*5121*	
73.3	83.8	**10.5**	45.7	73.6	**27.9**	64.8	70	**5.2**	61.4	67.2	**5.8**	65.7	78.7	**13.0**
556	*697*		*566*	*679*		*534*	*668*		*510*	*682*		*4478*	*5500*	
50	64	**14**	50.5	35.9	**-14.6**	48.3	40.6	**-7.7**	60.7	73.2	**12.5**	53.0	59.4	**6.4**
323	*428*		*376*	*450*		*328*	*466*		*348*	*474*		*2911*	*3516*	
34.9	72.1	**37.2**	21.5	39.0	**17.5**	21.7	48.4	**26.7**	52.0	79.3	**27.3**	34.6	61.1	**26.5**
164	*220*		*204*	*175*		*110*	*196*		*147*	*198*		*1395*	*1499*	
2.9	30.9	**28.0**	5.8	16.0	**10.2**	17.2	13.3	**-3.9**	15.1	49.5	**34.4**	9.4	25.5	**16.1**
323	*428*		*376*	*450*		*328*	*466*		*348*	*474*		*2911*	*3516*	
55.6	74.2	**18.6**	29.6	60.7	**31.1**	27.5	59.8	**32.3**	86.0	93.3	**7.3**	52.9	73.1	**20.2**
69.3	78.8	**9.5**	34.6	52.1	**17.5**	55.2	56.9	**1.7**	65.3	81.8	**16.5**	57.5	71.6	**14.1**
50.6	74.1	**23.5**	26.7	47.2	**20.5**	42.3	53.1	**10.8**	58.0	79.5	**21.5**	48.0	68.4	**20.5**
44.8	64.7	19.9	22.3	40.2	**17.9**	37.8	43.0	**5.2**	51.4	74.4	**23.0**	42.3	58.2	**15.9**

difference of 10 percentage points is still statistically significant. Program-wide, the aggregate samples are of course large enough to detect much smaller differences, but these may not be programmatically relevant. For reasons discussed in papers in this series dealing with technical themes, estimates for all indicators measured in the endline were not available at the baseline. Thus Table 10.2 presents estimates only for indicators that were available from the baseline as well. For indicators that were not available from the baseline survey, the individual papers use evidence from the RAPs to demonstrate progress over time, which the interested reader may want to refer to. Indicators related to complementary feeding, such as frequency and volumes are examples of indicators that were unavailable at the program baseline in 2001.

Newborn care

Between baseline and endline surveys, there were significant reductions in the proportion of births occurring at home in three of the eight states. Since INHP focused on interventions for home-based newborn care, analysis is presented only for home deliveries. The use of "five cleans" at birth and the practice of not applying anything to the cord, both important indicators of avoidance of infection, increased about 20 percentage points by the endline at the program level, showing increases of over 10 percentage points in most of the states. The proportion of neonates reported to have been put to breast within two hours after birth and not given anything else to drink before breastfeeding increased over 30 percentage points by the endline, showing increases in all states other than Rajasthan.

Nutrition

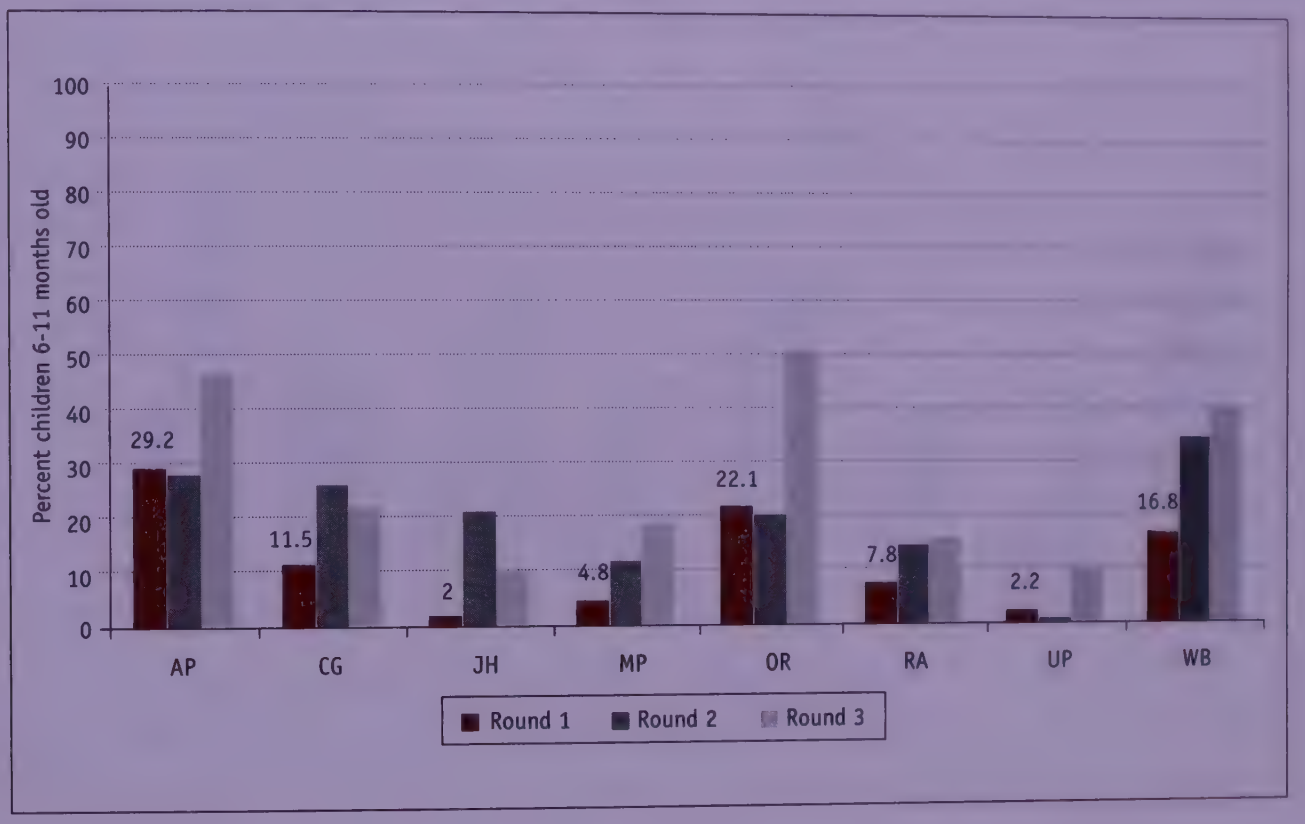
Exclusive breastfeeding rates in the first six months increased by 13 percentage points at the program level, with four states showing greater than 10 percentage point increases. Limited data was available from the baseline for complementary feeding indicators. The proportion of children reported to have started complementary feeding at the expected age increased by more than 10 percentage points in five of the eight states, but decreased in one state. While the baseline survey did not capture information related to quantities of complementary foods fed to children, time trends can be seen from the three rounds of RAPs conducted in one district in each of eight states. These surveys estimated the energy equivalents of cereal-based semi-solid or solid meals fed to children 6-23 months old. The proportion of children 6-11 months old who were fed the recommended amounts of these foods over the three rounds is presented in the upper part of Figure 10.2. As can be seen, the proportions are universally low, with a small improvement seen over time. The same data, analyzed to show the proportion fed at least half the recommended amounts is presented in the lower half of the same figure, and shows similar trends. Taken together, these data reveal the extent of energy (and presumably, other nutrient) deficit that is nearly universal, and how substantial improvements were seen over time in three of the eight districts.

The proportion of children 12-23 months old who were estimated, on the basis of immunization card and recall data, to have received at least one dose of vitamin

Figure 10.2: **Amounts of cereal-based meals fed as complementary foods to 6-11 month-old children, RAPs, Rounds 1-3 (2003-2005).**

Proportion fed the recommended amount or more

Proportion fed at least half the recommended amount



A increased about 27 percentage points at the program level, showing greater than 10 percentage point increases in seven of eight states (Table 10.2). Two dose receipt among 18-23 month-olds increased 16 percentage points at the program level, with six of eight states registering greater than 10 percentage point increases.

Immunization

The proportion of mothers of children 12-23 months old reporting the receipt of an immunization card, a measure of active systemic effort, increased about 20 percentage points at the program level, representing increments of about 10 percentage points or more in six of the eight states. Full immunization coverage increased about 16 percentage points at the program level, while measles and DPT coverage increased about 20 and 14 percentage points, respectively. In six of the eight states, these indicators rose by 10 percentage points or more.

Equitable reach

As discussed in several papers in this series, there were differences, often small, in the coverage of services between different social and economic groups. Not shown in this paper, these differences reduced in magnitude in several states, or remained stable, over the life of the project. Across all surveys, significant gender differences were not noted for virtually any indicator of interest.

Comparisons with non-RACHNA-assisted areas

Except for the two districts in UP and AP where evaluation research was conducted, comparable data from non-INHP assisted areas is not available. One potential source of comparative data is NFHS-3, which was contemporaneous with INHP-II endline, since the two surveys share many similar questions on a number of critical indicators. Estimates from NFHS-3 represent entire states, and may thus be considered the weighted averages of estimates from INHP-II assisted areas (represented by the endline survey of 2006) and non-INHP-assisted areas (for which no estimates are available). However, there are very few indicators from among those already reported from NFHS-3 which are directly, reliably comparable. Figures 10.3, 10.4 and 10.5 present some illustrative comparisons for indicators that are comparable. The DPT-3 coverage by card or recall among 12-23 month olds in INHP-II endline exceeded that estimated by NFHS-3 in every state (Figure 10.3). Not shown in this paper, measles vaccine coverage followed a similar pattern. Full immunization coverage rates were also higher at the INHP-II endline, as compared to NFHS-3 in all states except in one, where the estimates were almost identical (Figure 10.4). The proportion of children who were given breast milk and complementary foods in the previous 24 hours, among children 6-9 months old was equivalent or higher in all states in the INHP-II endline, as compared to NFHS-3 (Figure 10.5).[30] Analysis of raw data from NFHS-3 will enable more robust comparisons.

In the newborn care evaluation research study in UP, key newborn care behaviors changed substantially in the study (INHP-assisted) district but not in the comparison (non-assisted, but ICDS implemented) district over time (Figure 10.6). In the nutrition evaluation research study (data not presented in this paper), two INHP-assisted districts, one each in UP and AP were compared to non-INHP-assisted districts from the same states. There were significant differences in a number of feeding behavior-related indicators over time, the improvements being more marked in the INHP-assisted districts, particularly in the UP district.[31]

Impact on malnutrition and mortality

As assessed at the Final Evaluation of the project in 2006, there was a decline of eight percentage points in the proportion of malnourished children 12-23 months old (more than 2 z scores below the NCHS weight-for-age median) between the baseline and endline of INHP-II. Since this represented program-wide scale, since the state-level figures showed fluctuations, and since there was no possibility of a control for the scale that the project represented, attribution to specific

[30] The denominators are small for both surveys, since this indicator comes from a very narrow age group.
[31] Presented and described in the *Paper 4: Changing Infant and Child Feeding Behaviors*

Figure 10.3: **DPT3 coverage comparisons for RACHNA program states – NFHS-3 (2006) and RACHNA endline (2006).**

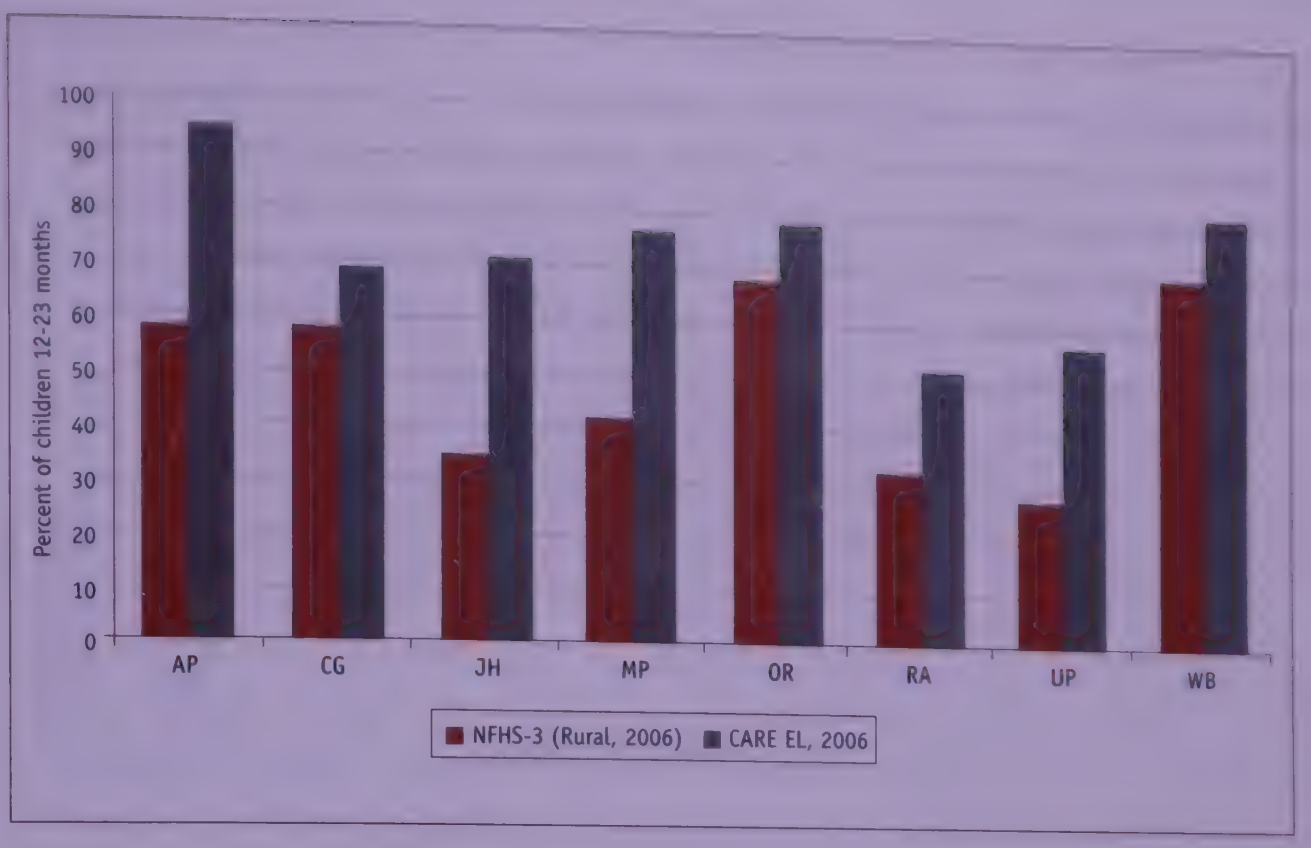


Figure 10.4: **Complete immunization coverage comparisons for RACHNA program states – NFHS-3 (2006) and RACHNA endline (2006).**

Figure 10.5: **Children 6-9 months old receiving solid or semi-solid food and breast milk, RACHNA EL (2006) and NFHS-3 (2006).**

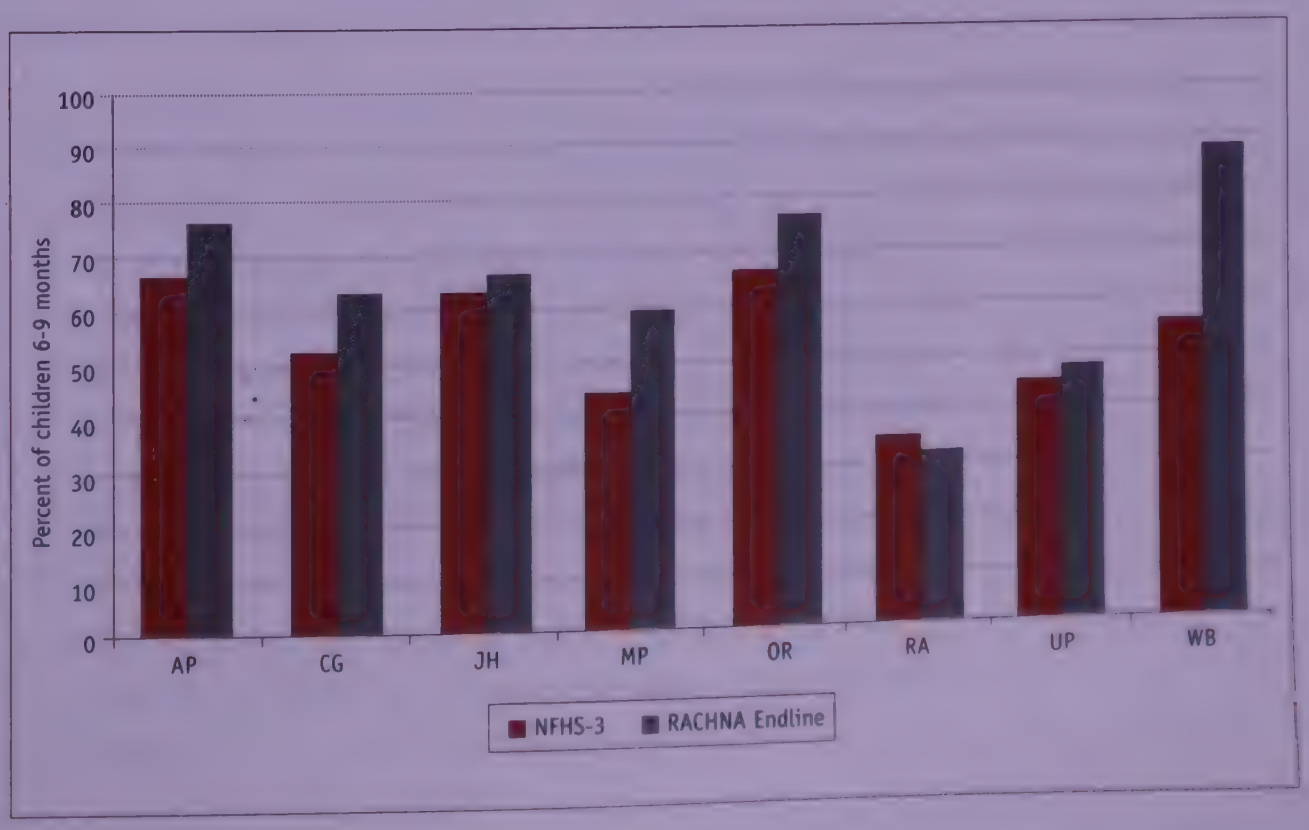
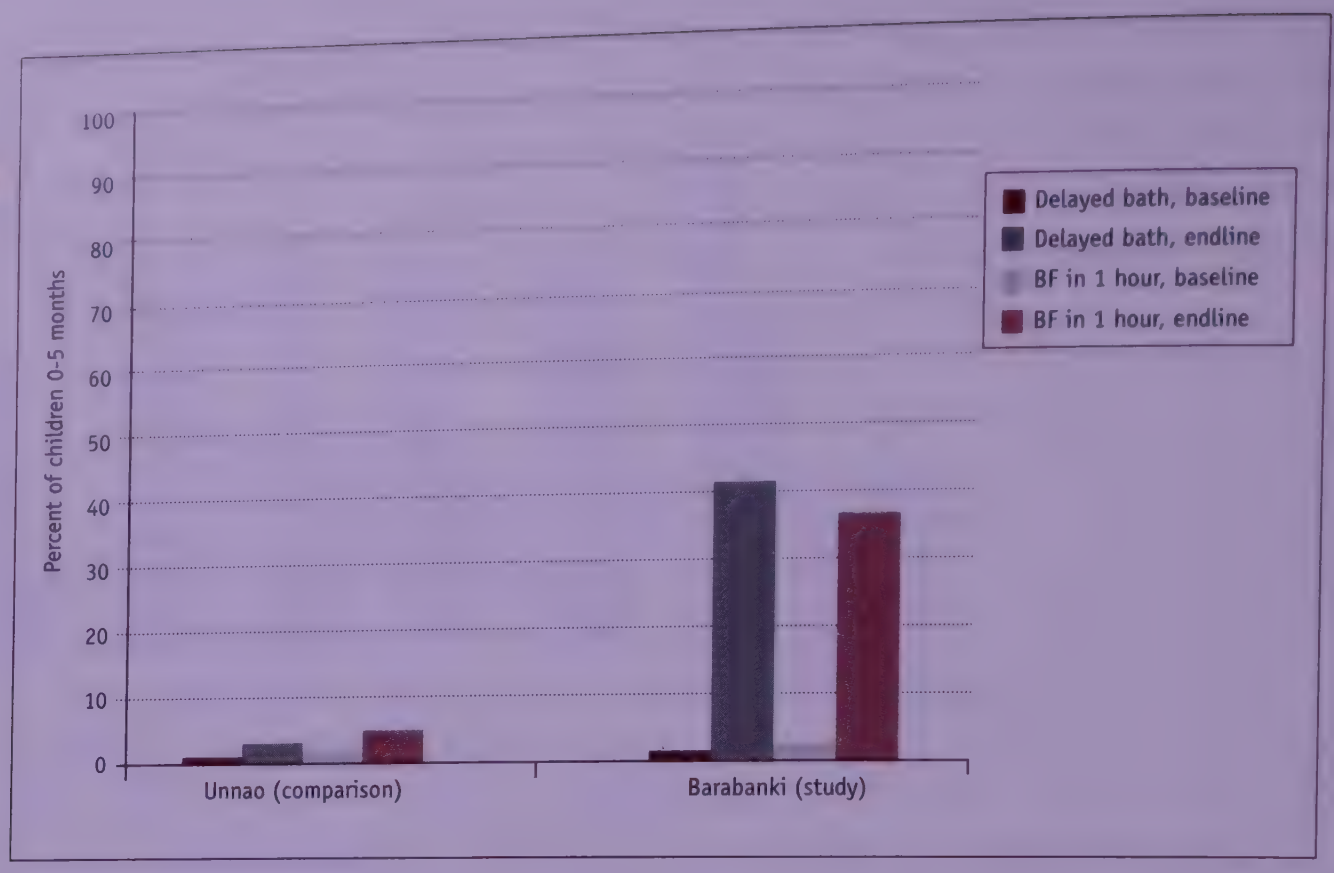


Figure 10.6: **Change in newborn care behaviors across surveys in Intervention (Barabanki) and Comparison (Unnao) districts in the Newborn ER study, Baseline (2003) vs Endline (2006).**



interventions was difficult. The magnitude of change in feeding behaviors was deemed by the Final Evaluation team inadequate to bring about measurable change in nutritional status, and it was suggested that the increase in measles vaccination rates could have contributed to the overall improvement.

Neither of the two evaluation research studies reported significant change in the respective impact indicators – neonatal mortality rates and malnutrition rates – despite the positive changes noted above. This failure may be attributable to the fact that the interventions matured late in the course of the study, and did not achieve acceleration in the practice of caring or feeding behaviors sufficient to cover the vast majority of children in the universe – the achieved levels of practice of many of the practices considered critical for child survival did not exceed about half the universe. One example is the increase in early breastfeeding illustrated in Figure 10.6: the difference between the study and comparison districts is huge and incontrovertible, but the absolute proportion of children given breast milk early is less than 50 percent in the intervention district at the endline.

Another example is the consumption of significant quantities of simple, cereal-based complementary foods: from near-absent levels, the proportion of children fed something reasonably substantial rose considerably, but was still not being practiced by more than half the children at the endline of the study (data not presented in this paper, but see *Paper 4: Changing Infant and Child Feeding Behaviors* in this series). It is known that the impact indicators have multi-factorial roots, and the magnitude of change in the impact indicators would be expected to be greater if more of these contributory factors simultaneously showed positive change than if fewer showed such change. When even the practice of individual key behaviors fell short of half the universe, the proportion of cases in which *all* or *most* caring and feeding behaviors were correctly practiced was even lower. The lack of measurable impact in the presence of strong improvements in individual behavior indicators is therefore not unexpected. Given more time to mature, though, it is conceivable

that caring and feeding practices could have become stronger and led to measurable impact. It is also worth noting that, in one of panel districts for which serial data is available, there appears to be evidence of interventions leading to a reduction in malnutrition levels between the second and third rounds of assessments (also presented in *Paper 4: Changing Infant and Child Feeding Behaviors*). The absence of a comparison group, however, makes this evidence less than conclusive.

Another commonly cited reason for a lack of measured change in impact indicators in INHP-II is that the interventions package was less comprehensive than it could have been, since it did not include the treatment of sepsis or asphyxia – known to be responsible for about two thirds of neonatal deaths, or the treatment of specific illnesses such as diarrhea or pneumonia among older children – illnesses that are known to contribute to malnutrition. Recent reviews of evidence in the several series of papers on child survival and nutrition published in *The Lancet* (2003, 2005, 2008), however, suggest that individual interventions do have independent influence on child survival and nutritional status.

Irrespective of demonstrated effect on the impact indicators, there was demonstrated substantial improvement in certain key service coverage indicators and in indicators related to caring and feeding behaviors in INHP-II assisted areas, as described above. These improvements were not uniform across the program, either in magnitude or quality, which is to be expected in programs at the scale that INHP-II represents. The next section examines the relationship of these changes in outcomes to the processes promoted by INHP to influence change in outcomes.

Process that could have Led to the Change in Outcomes

Evidence related to processes promoted by INHP was less easy to capture in independent assessments, and for this and other practical reasons, many of these were not adequately measured during the assessments. For instance, most of the evidence available for the extent and regularity of use of NHD comes from what AWWs themselves have reported, either as one of the elements of their monthly reports, or during interviews of a sample of them during the endline survey. There was no simple method of verifying this. Similarly, there was no uniform data that could be reliably collated on the extent of use of tools such as the home visit planner-register or the appropriate use of processes such as sector meetings or supervisory visits, although these parameters were regularly being monitored in different ways by INHP district and state teams. Some direct and some less direct indication of the extent and quality of use of these processes are available from interviews of mothers, AWW and ANM conducted at the endline.

All the processes promoted by INHP-II can be clubbed under four fairly distinct categories:

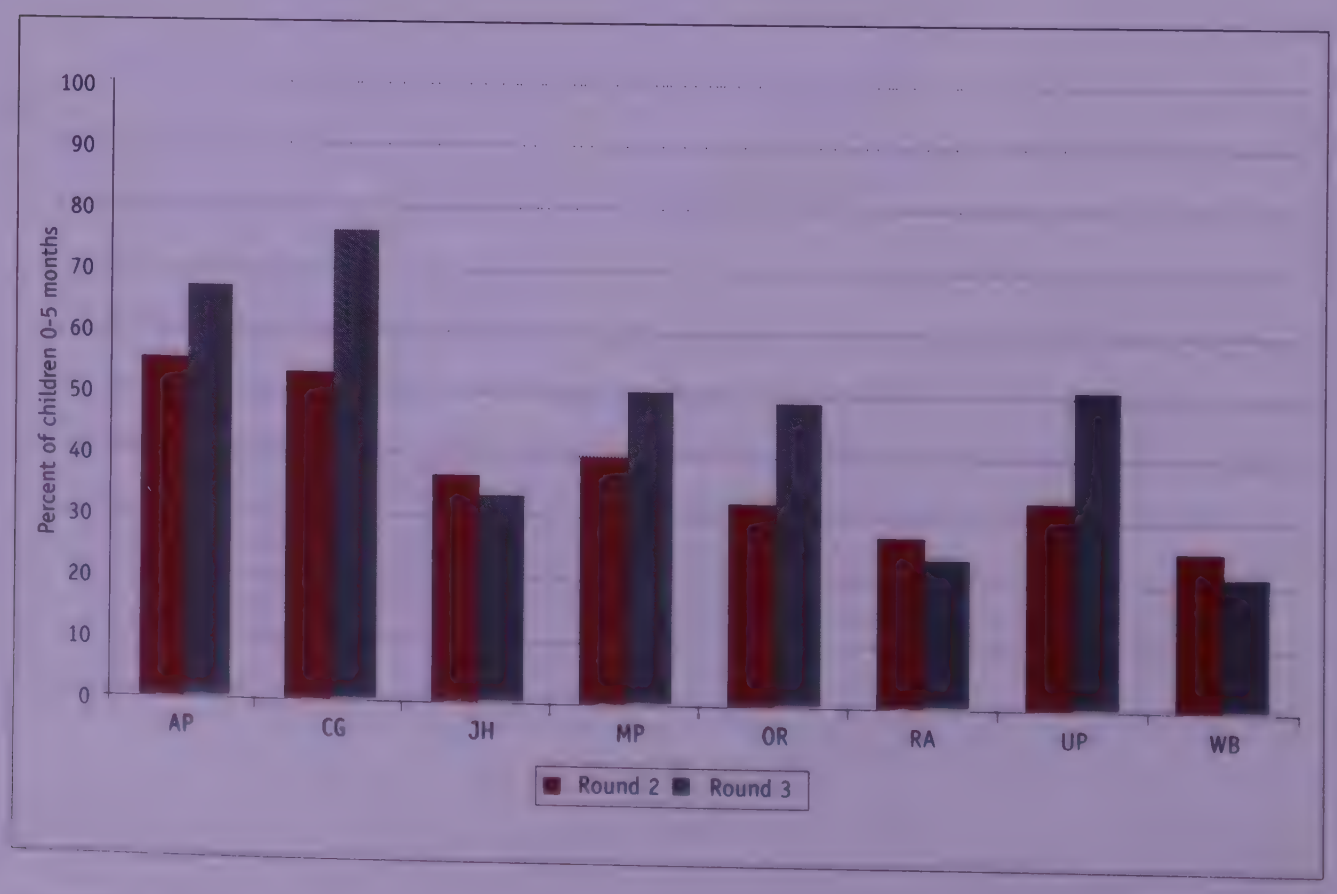
- Processes that promoted inclusion and facilitated tracking of women and children for any service or information-advice-counseling,

- Processes that promoted behavior change at individual level – mainly, interpersonal contacts through home visits and the information-advice-counseling offered,
- Processes that strengthened supervision of either or both of the above.
- Processes specifically meant to improve convergent functioning of ICDS and health programs

Processes that promoted inclusion and tracking

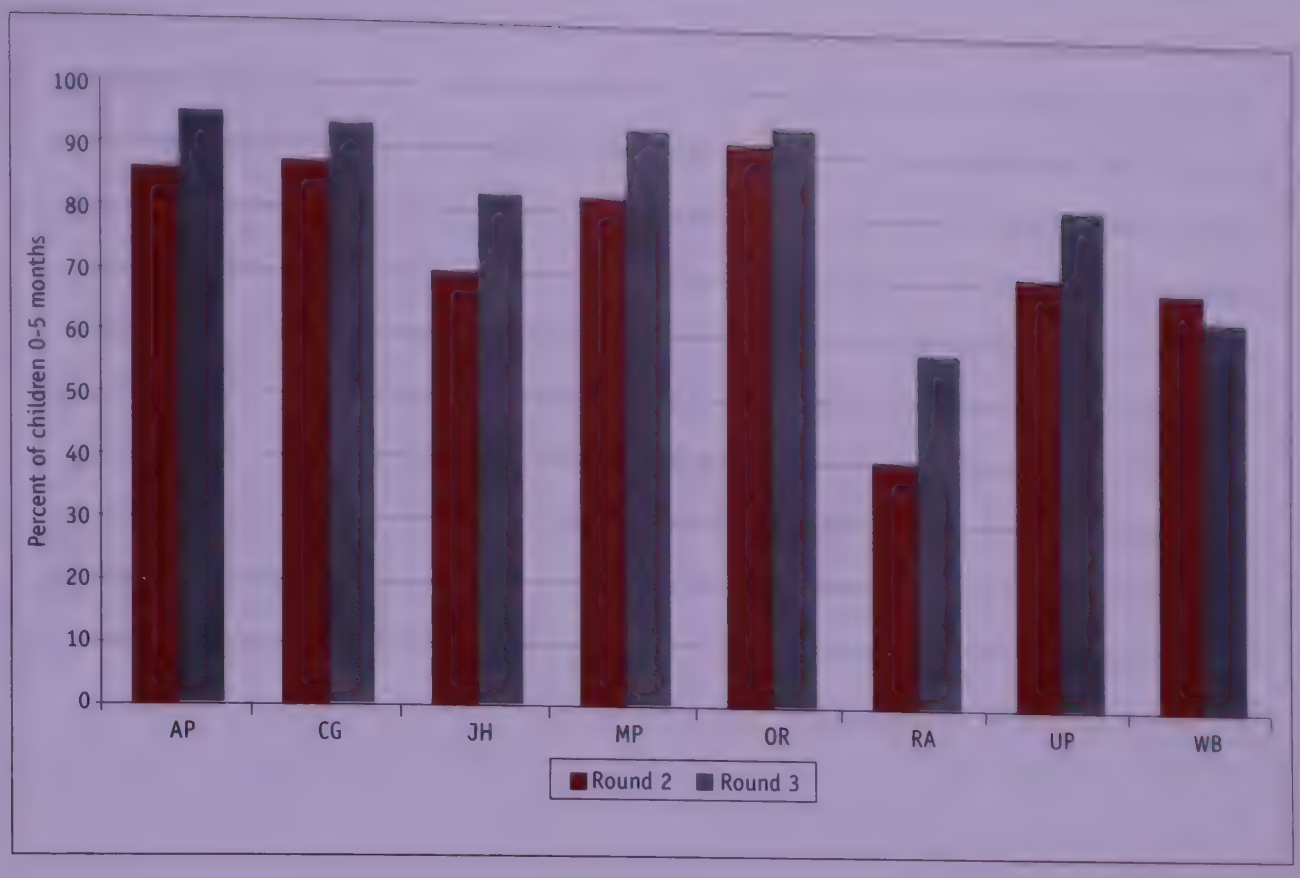
As described earlier, over time, the focus of the project moved from the use of specialized techniques of tracking such as the use of social maps, to ensuring that the existing mechanisms of survey and service registers were appropriately used. Simple processes that were emphasized in most states included insistence that fresh births be immediately added to service registers and that "due" lists be made and used for ensuring that all children who were due for immunization on a given day were specifically identified and called to the AWC in time. The continued use of NHD, one of the original best practices, has been mentioned. As seen in Figure 10.7, the proportion of mothers of children in the age group 0-5 months who reported being aware of NHD increased by more than 10 percentage points in five of the eight panel districts between the second and third round of RAPs, and remained stable in the remaining three. Over the same period, as shown in Figure 10.8, the proportion of mothers reporting that someone came to inform or fetch the child when she or he was last vaccinated also increased or maintained high levels in seven of eight districts.[32] Presumably, the reason for these improving trends was the effort made by AWW, ANM and change agents to implement these processes. These examples, in addition to the evidence of increasing immunization coverage presented in Table 10.2, provide indirect evidence that processes that promoted inclusion and tracking were actually in effective use on the ground across a wide area.

Figure 10.7: **Awareness of NHD among mothers of children 0-5 months old, RAPs Rounds 2 and 3 (2004, 2005).**



[32] The eighth, Bankura in West Bengal, had consistently high levels of immunization coverage, where people were accustomed to trek to the nearest subhealth-center on immunization days as a matter of routine, without being told.

Figure 10.8 Called by someone for immunization when the child was last vaccinated, 0-5 month-olds, RAPs, Round 2-3 (2004, 2005).



Processes that promoted behavior change

The main emphasis on behavior change during INHP-II was on interpersonal contacts, preferably at home, supplemented by other channels of communication. As described earlier, by the last year of the project, frontline service providers of ICDS and RCH programs (AWW and ANM) were the mainstay of this strategy. All surveys beginning with the first round of RAPs in 2003 assessed whether these visits were indeed made, and what advice or information was offered. Different papers in this series carry varying levels of detailed evidence about these processes as pertinent to the theme of the paper. Here, a few summary examples are presented from the available evidence.

Figure 10.9 shows increments in the proportion of families visited at home (at least once) during specific periods, as reported by mothers during RAPs in panel districts. Home visits during different periods increased by more than 10 percentage points in at least four of the eight districts. As shown in Figure 10.10, the proportion of mothers reporting that they received specific advice related to breastfeeding or complementary feeding increased substantially in the same districts. Figure 10.11 shows, for children 6-17 months old, the reduction in missed opportunities for giving advice related to complementary feeding – that is, where service providers contacted mothers and their families, but failed to give relevant advice – as reported by the mothers. Almost all districts show reductions in such missed opportunities. More examples of changes in home visits over time, and of close associations between home visits or advice received and desirable caring and feeding practices can be found in other papers in this series.[33]

Taken together, there is strong evidence that AWW and ANM could increase the frequency of timely home visits and relevant advice over time, and that this was plausibly linked to behavior change.

[33] See particularly, *Paper 3: Enhancing Newborn Care; Paper 4: Changing Infant and Child Feeding Behaviors; Paper 5: Widening Coverage of Micronutrient Supplements* and *Paper 7: Widening Coverage of Primary Immunization*

Figure 10.9: **Percentage point increments in home visits by either AWW or ANM, RAPs in Panel Districts.**

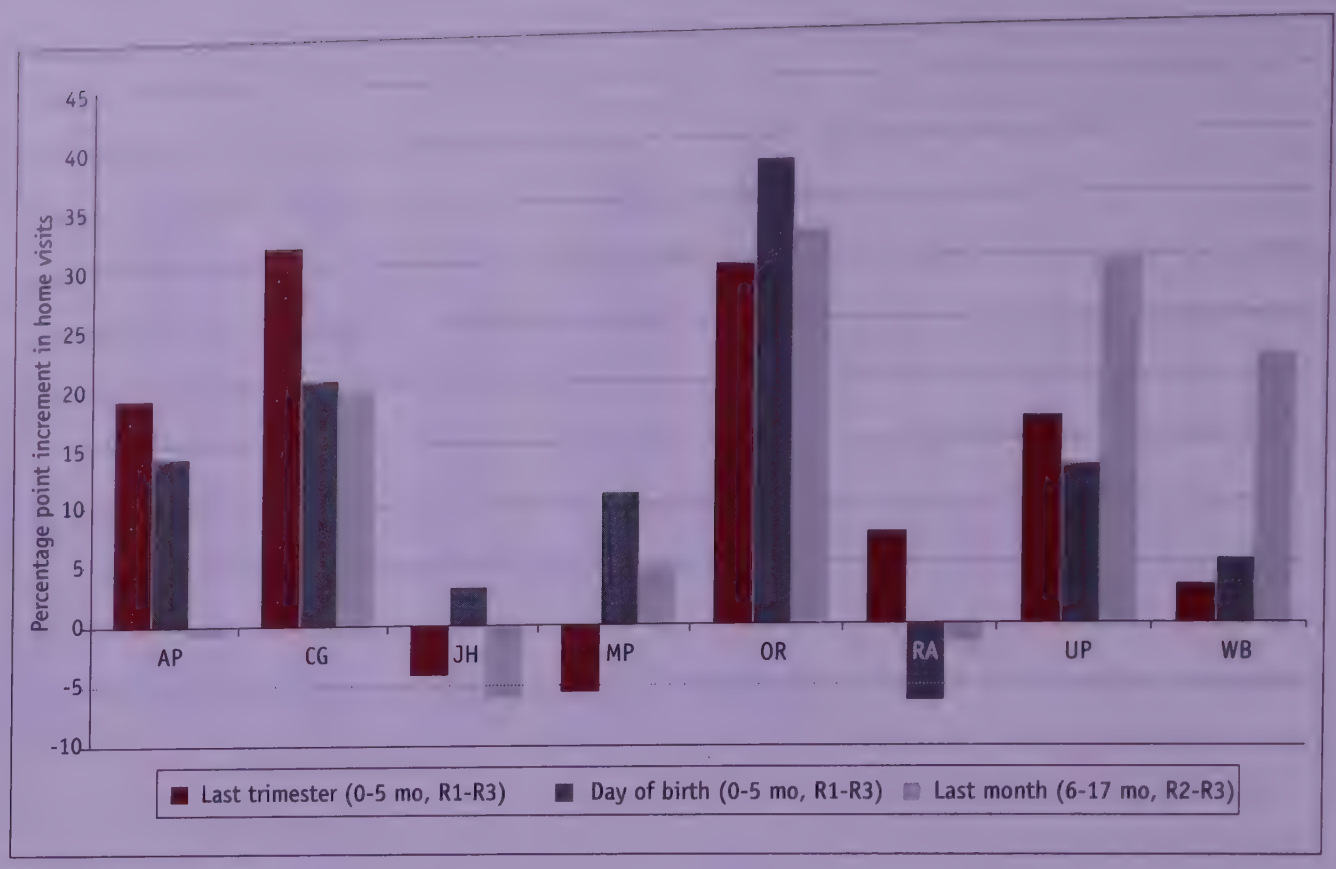


Figure 10.10: **Percentage point increments in advice given during contacts by any service providers or volunteers, RAPs in Panel Districts.**

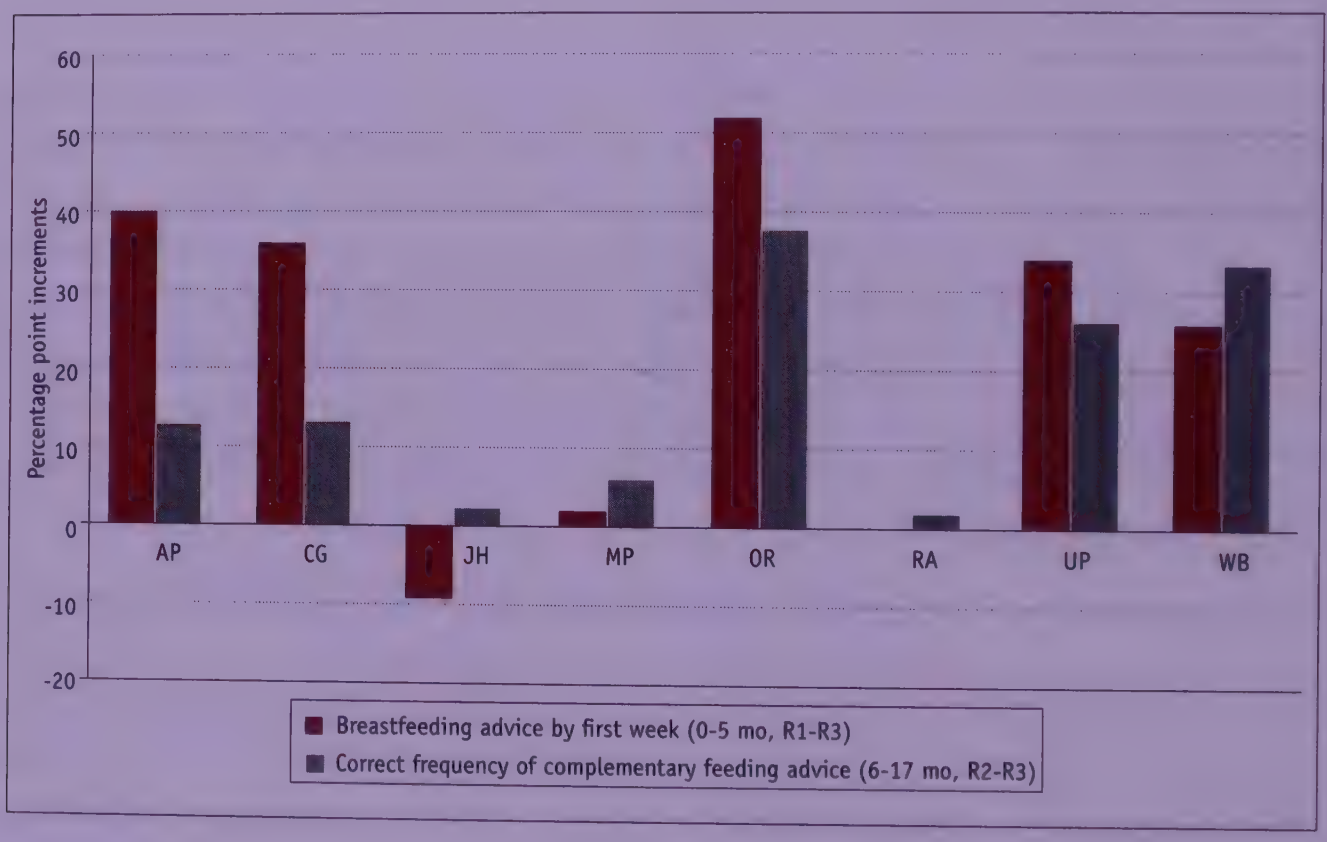


Figure 10.11: **Percentage point reductions in missed opportunities for providing advice for complementary feeding, children 6-17 months old, RAPs, Rounds 2 and 3 (2004, 2005).**

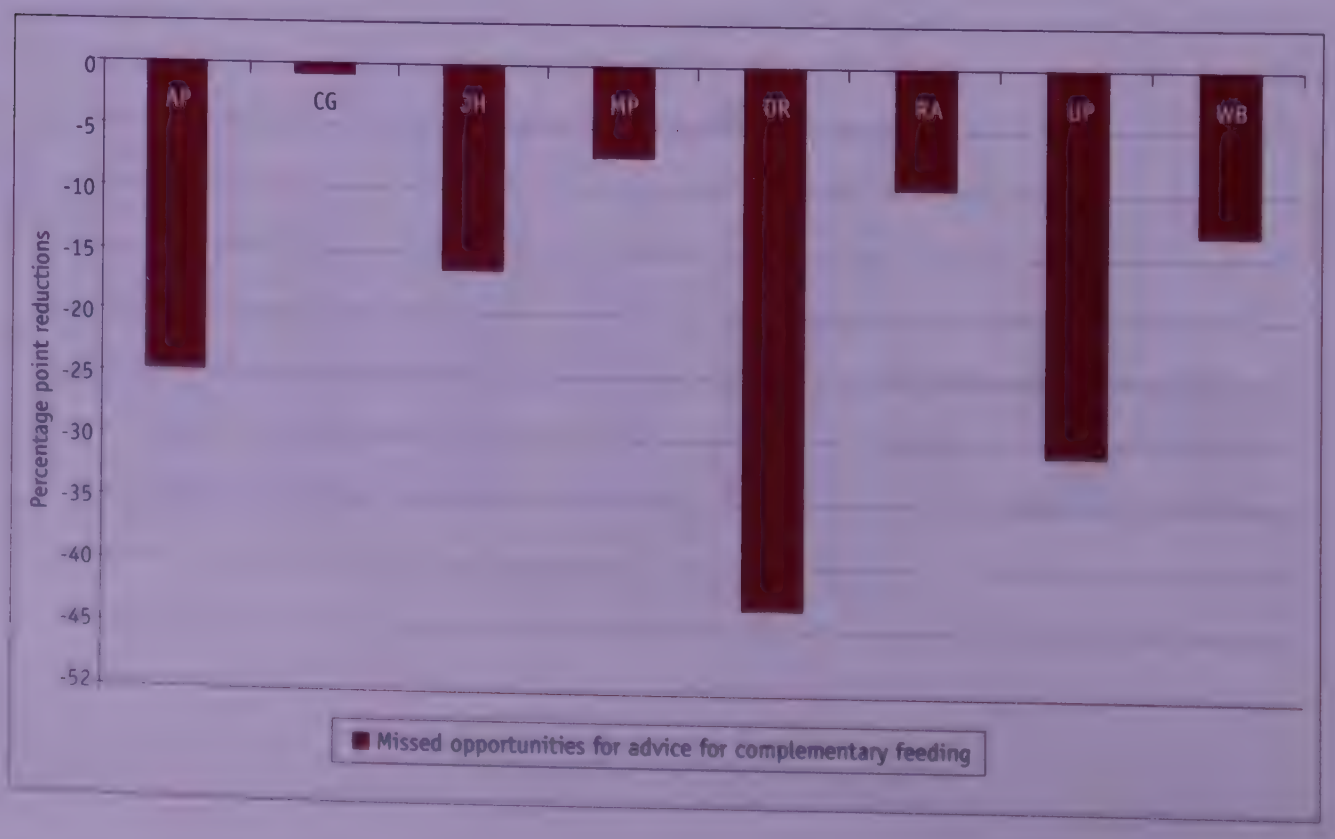


Figure 10.12: **Last trimester home visits by AWW per 30 pregnant women, Rounds 1 (2003), Round 2 (2004) and Round 3 (2005), RAPs.**

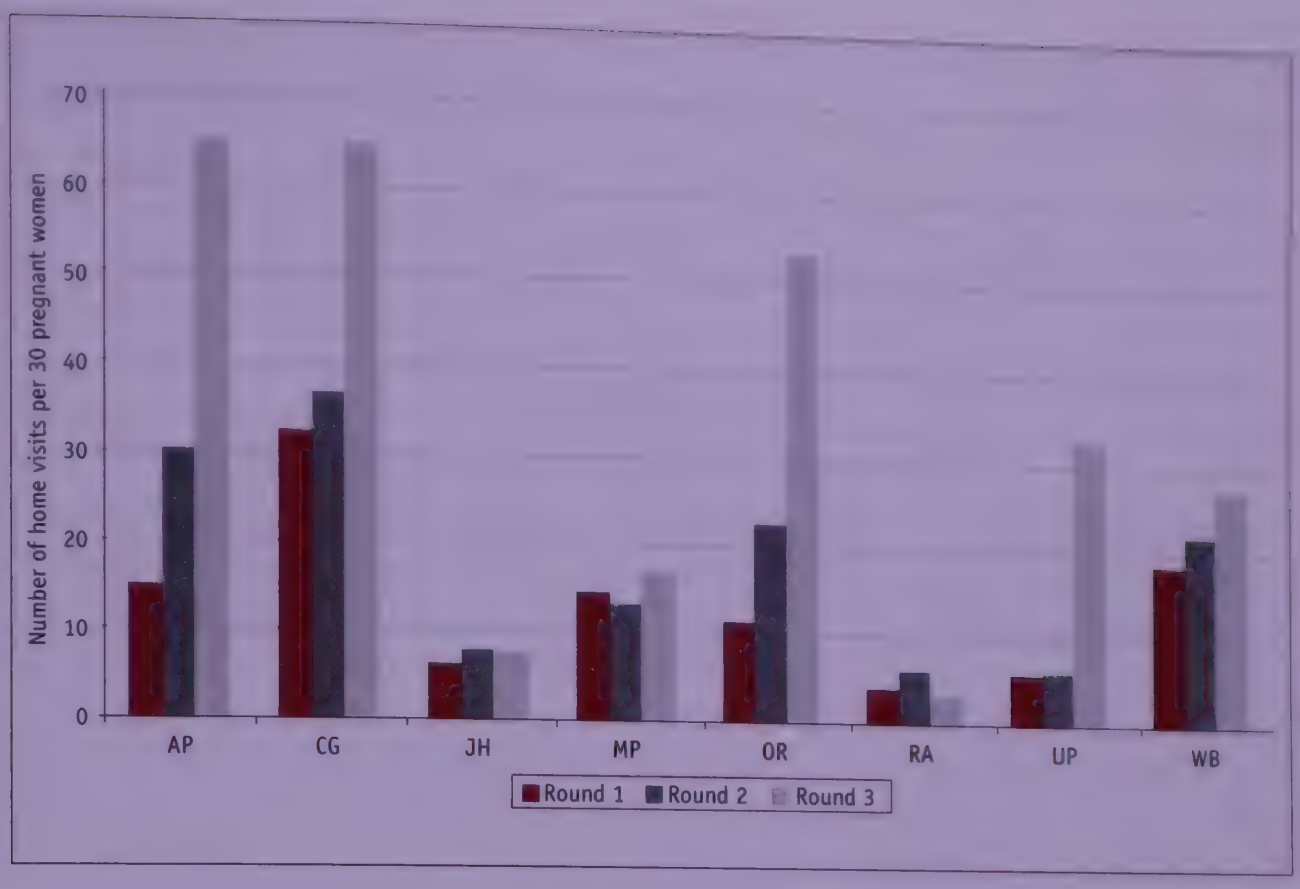


Figure 10.13: **Last trimester home visits by ANM per 30 pregnant women, Round 1 (2003), Round 2 (2004) and Round 3 (2005), RAPs.**

Figure 10.12 and 10.13 examine the estimated absolute increases in the effort put in by AWW and the ANM respectively, for making home visits during the last trimester of pregnancy, which is considered a critical period for influencing the maternal and child outcomes of pregnancy. Based on reported frequencies of home visits by mothers in the RAPs in the panel districts, the number of visits made by these workers to homes of 30 pregnant women has been estimated, representing the number of pregnant women in a typical village in a typical year. As can be seen, in five of eight districts, there were substantial increases over time in the level of effort. Also, as expected, AWWs were able to make more home visits than ANM.

Box 10.8 describes the implications of increases in home visits on the workload of these functionaries.

BOX 10.8: Home visits by AWW: How much a burden?

The ICDS has a mandate to support the reduction of maternal and child mortality and malnutrition, and to provide health and nutrition education to the families covered by the scheme. The AWW, being usually a resident of the same village or town where her AWC is located, is well-placed to visit a few homes and provide the timely simple information and support to families to ensure that they are aware of healthy caring and feeding practices. By norm, each AWW is expected to make five home visits a day. Yet, one of the first responses to any proposal to get AWW to conduct timely and meaningful home visits is that she is already overloaded and cannot possibly take on more work.

The period between the detection of pregnancy and the age of two years of the child is considered the "window of opportunity", where interventions have the greatest likelihood of impact, and a failure to act during this period is known to result in preventable death and malnutrition. Provision of timely information and guidance to families during this period is critical, and among the different strategies of bringing about behavior change, contextual, individualized interpersonal communication is known to be the most effective. What really are the workload implications on an AWW to play this crucial role, perhaps the most crucial of all roles that ICDS can play to fulfill its mandate to reduce mortality and malnutrition?

Typically, an AWC covers a population of 700-1000, often more, representing about 30 births a year or so, depending on the actual population covered and the birth rate. If an estimate is available of the number of home visits required to make for each mother and child, it is possible to work out the total number of home visits per year. The table below presents a reasonable number of home visits at each stage within the "window of opportunity":

Period	No of home visits	Purpose of home visits
Pregnancy 7-9 months (third trimester)	2	Prepare family for childbirth, obstetric emergencies, and immediate neonatal care
Day of birth	1	Ensure that adequate attention is paid to crucial details of maternal and neonatal care, including cleanliness, thermal care, breastfeeding, and the detection of maternal and neonatal complications
First week	2	Follow up to ensure continued adequacy of maternal and neonatal care, and the detection of any complications
2nd-4th weeks	2	Continued follow up
1-5 months	2-3	Encourage exclusive breastfeeding and timely immunization
6-8 months	2-3	Ensure timely initiation of complementary feeding, and adequate attention to quantities and quality of feeds.
9-11 months	2	Ensure increasing quantum of appropriate complementary feeds, and measles and vitamin A supplement.
12-18 months	2	Continued attention to increasing complementary feeds, second dose of vitamin A.
Total	**15-17**	

In a typical year when there are 30 births, the AWW would need to make about 450-500 home visits, or about two per day, considering about 250 working days in the year. In addition, she will be required to make more visits in the case of premature or severely low birth weight neonates who need extra care – about 3-4 such births each would each require on an average 5-10 more home visits. The monthly home visits to the few children with acute malnutrition, the "high risk" pregnancies, the few children with special needs, etc., together with the above would still not take the home visit requirement to beyond three per day – well within the present norm of making five home visits daily.

(Contd...)

Currently, AWW do not have a clearly delimited set of priorities to be addressed through home visits, which probably explains why ICDS has not been able to dent critical caring and feeding behaviors since long. Given simple management tools, including ways of prioritizing whom to visit, and supervision that re-emphasizes the same priorities, it is potentially possible for AWW to deliver substantially more with clearly lesser effort than prescribed, as shown from the experience of INHP. A similar calculation and argument can be made for the ANM's workload as well.

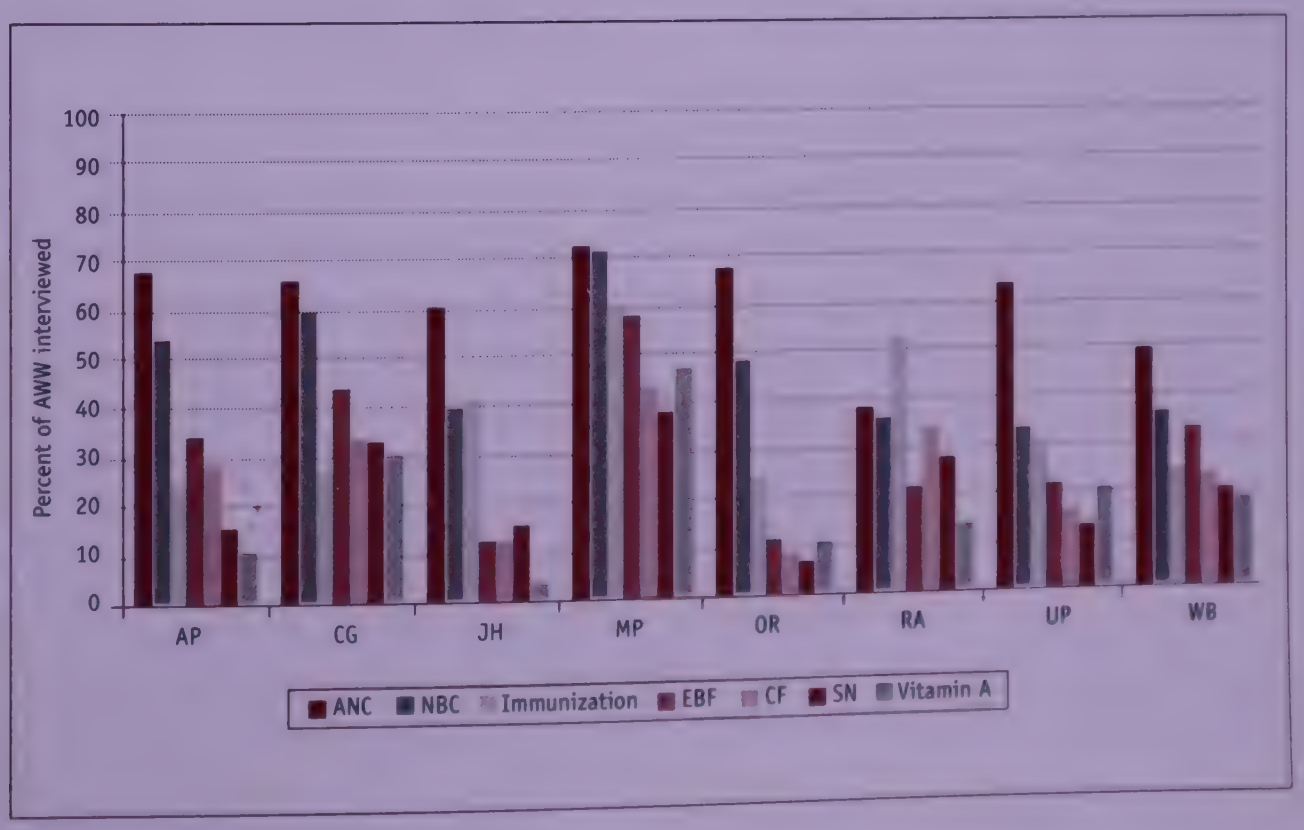
In real terms, this "workload" of home visits cannot be a permanent feature. Most of the behaviors related to neonatal and infant care and feeding are simple ones, which should become the norm within a few years of sufficiently intense behavior change effort. As these caring and feeding practices become a part of local custom, the effort to sustain them will proportionately decrease. This is particularly true of the present times, when communities exhibit a greater willingness to change than ever before.

Processes that strengthened supervision

Supervisory processes were more difficult to assess, as mentioned earlier, primarily because there were no independent sources of information about these processes (such as mothers' reports about home visits and advice received from AWW and ANM). The most "independent" sources were interviews of AWW at the endline, using questions designed to reveal recent change in supervisory priorities.[34] Figure 10.14 shows recent supervisory priorities in terms of technical areas, as perceived by the AWW. Figure 10.15 shows similar priorities, in terms of activities. In both cases, each column represents the proportion of AWWs who perceived that area or activity to be among the top three of her supervisor's current priorities (in early 2006). Among technical areas, antenatal care and newborn care dominate the list of priorities, except in Rajasthan where immunization is the perceived top priority. Among activities, home visits were perceived to be a dominant priority.

Figure 10.16 shows the proportion of AWWs spontaneously saying that home visits to specified age-groups were "additional" activities started during the year preceding

Figure 10.14: **Relative supervision priorities as perceived by AWW (top three topics), Endline (2006).**



[34] Similar information is not available from the baseline survey, and hence baseline-endline comparisons are not possible.

Figure 10.15: **Relative supervision priorities as perceived by AWW (top three topics), Endline (2006).**

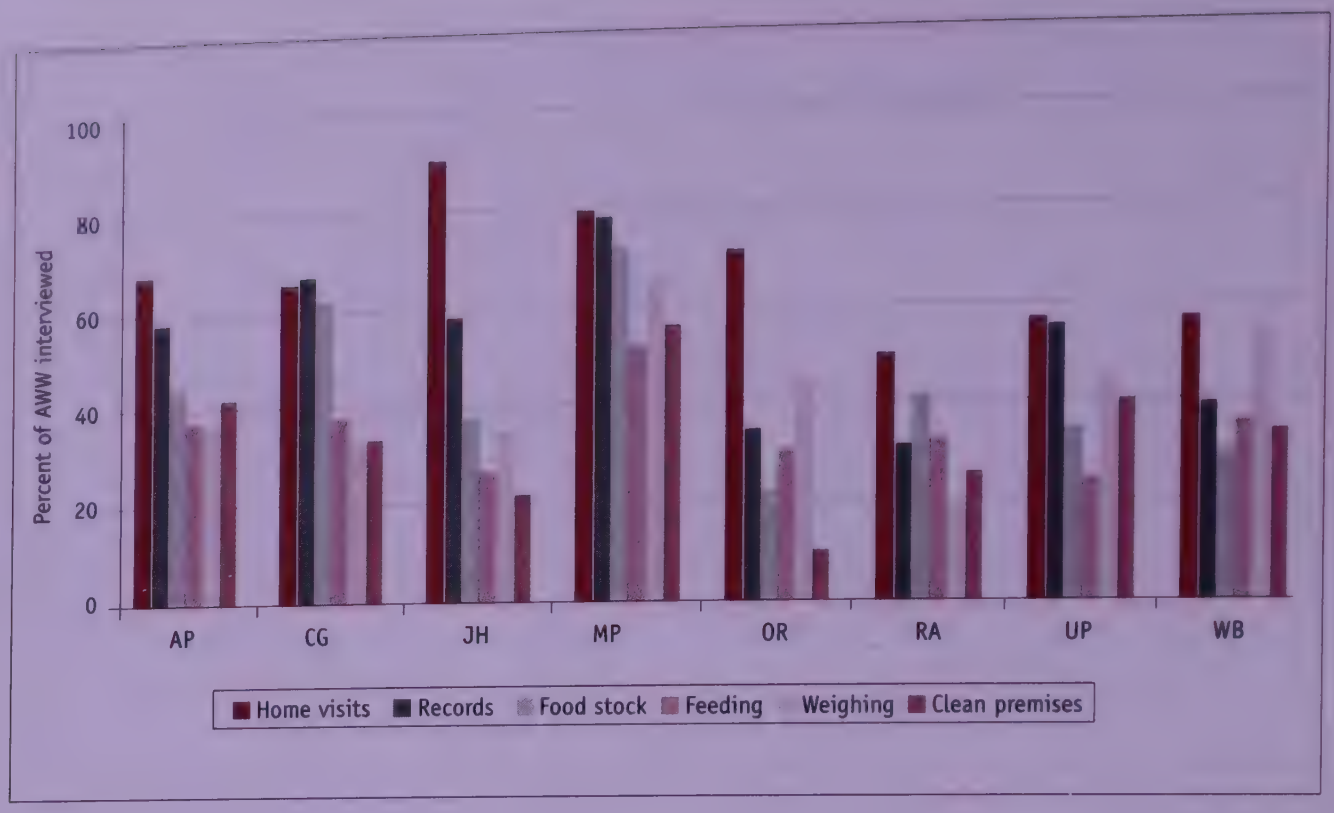


Figure 10.16: **Home visits during different periods as additional activities started in the previous year, AWW interviews, Endline (2006).**

the interview in early 2006. Here, the proportion of AWW perceiving this is quite substantial in every state, despite home visits having always been a part of their work. Taken together with the perceived supervisory priorities, this suggests that supervisors had recently begun to emphasize home visits, and that this emphasis had yielded results in terms of making AWW take to home visiting seriously. The highest priority to pregnant women and neonates, with lesser attention to older infants is not unexpected and in fact reflects the findings that the behavior change of greatest magnitude was found during the pregnancy and neonatal period. What is also of interest is that, unlike the varying magnitude of behavior change across states, the perceived recent increase in effort is quite even across states, at about 30-60 percent. This could mean that in some states, home visiting as a norm was a clear priority from earlier times, and thus was not perceived by many as an additional activity. It could also mean that, while home visits became emphasized all across, the quality of home visits left a lot to be desired in some states or districts and consequently, behavior change was small in these places.

Overall, about 70 percent or more of AWW in every state said they had attended sector meetings in each of the previous three months, and that, in most cases, the supervisor had been present at the meeting (data not shown), which indicates that supervisory contact with AWW is fairly predictable.

Processes that promoted convergent functioning of ICDS and RCH programs

The purpose of these processes was the same as those described above: to enhance service coverage and behavior change. Indeed, these were meta-processes that were designed to synergistically improve the effectiveness of the processes already described above.

The extent of use of the Nutrition and Health Days has been described earlier. These monthly events, structured around fixed-day, fixed-site immunization sessions are the most visible of convergent activities. They bring together not just the AWW and the ANM, but potentially, other important stakeholders, including volunteers such as Change Agents or ASHA, members of local women's groups and members of the village panchayat. The distribution of take-home rations of supplemental food on the same day as the provision of health services by the ANM, who comes to the village on this pre-announced day, is expected to provide an incentive to families to attend the NHD. Figures 10.17a and b provide an example of the organizing influence of NHD.

Supplemental food and vaccination services were available even at the baseline in 2001, but these services provided by the AWW and ANM, respectively, were not well-coordinated, as seen from their divergent coverage rates in most states, in Figure 10.17a. By the endline in 2006, NHD were in place across most sites, along with the tracking and inclusion mechanisms described above. As seen in figures, the coverage rates of the supplemental food and DPT-3 were remarkably closer together at the endline (Figure 10.17b) than at the baseline (Figure 10.17a) in states other than AP and Rajasthan. Besides, as described in Table 10.2, immunization coverage rates actually increased across most states between the baseline and end-line. In the absence of other known influences, it is tempting to believe that the involvement in the NHD of multiple stakeholders exerting mutual checks, supplemented by the strengthened tracking mechanisms described earlier and the food incentive together caused services to become more predictable and consistent.

One of the features of ICDS sector meetings during INHP-II was the effort to ensure that the ANM attended these meetings. Again, this served the useful function of tracking whether planned NHD or immunization sessions took place as scheduled, and if not, why not. It also helped coordinate other MCH services and discussion of operational problems related to them. As shown in Figure 10.18, ANM did attend these meetings, but the attendance fell well short of becoming universal or consistent. In two states, Madhya Pradesh and Orissa, over 60 percent of AWW reported that ANM had attended each of the previous three of their sector meetings, indicating that it is not unreasonable to expect such convergent functioning.

Another indicator of convergent functioning was the conduct of Block Level Advisory Committee (BLAC) meetings. These were monthly or quarterly meetings attended by the block and sector level functionaries of the ICDS and health

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Figure 10.17a: **DPT 3 coverage vs reported receipt of ICDS food supplements when younger than 6 months, among children currently 12-23 months, Baseline, 2001.**

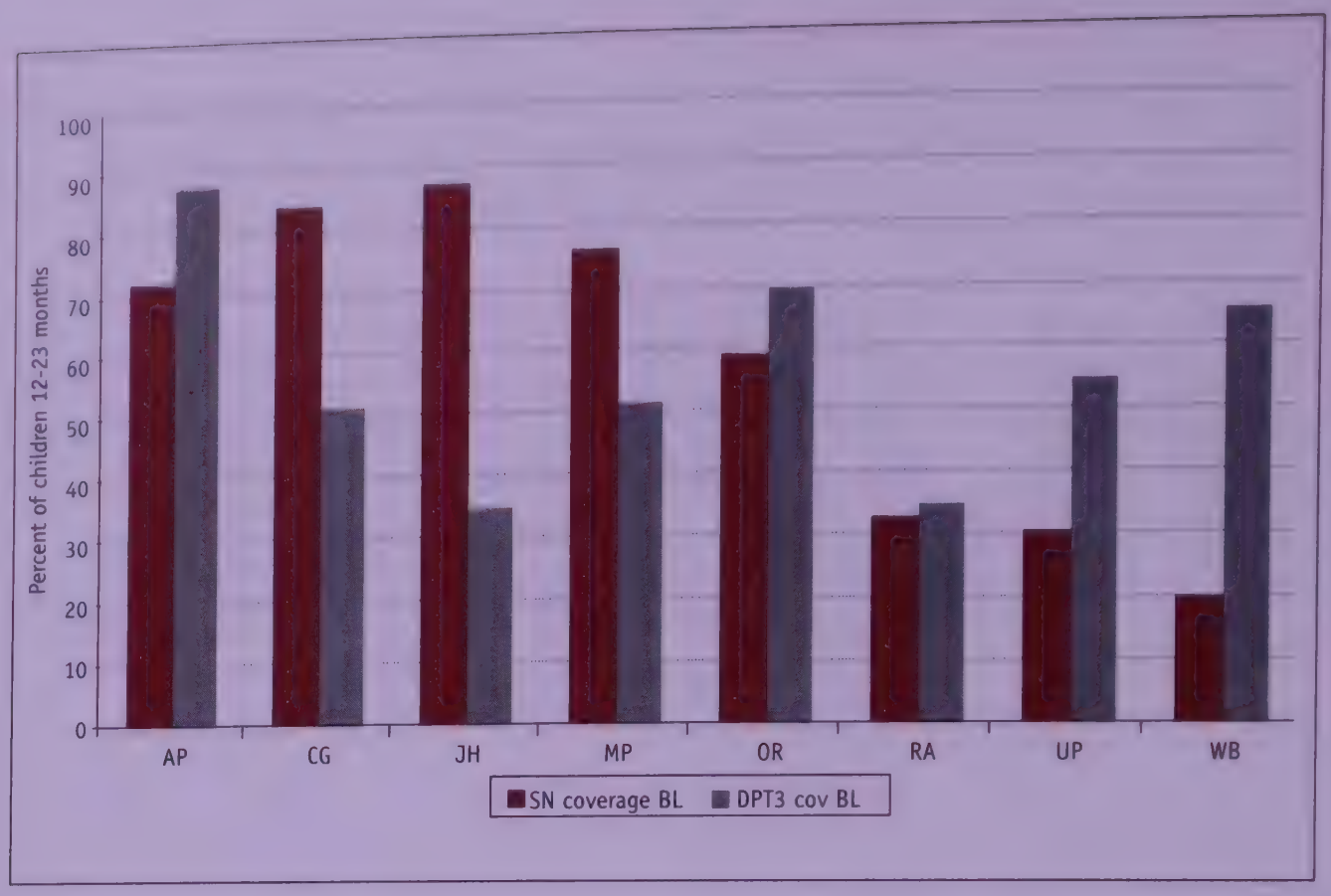
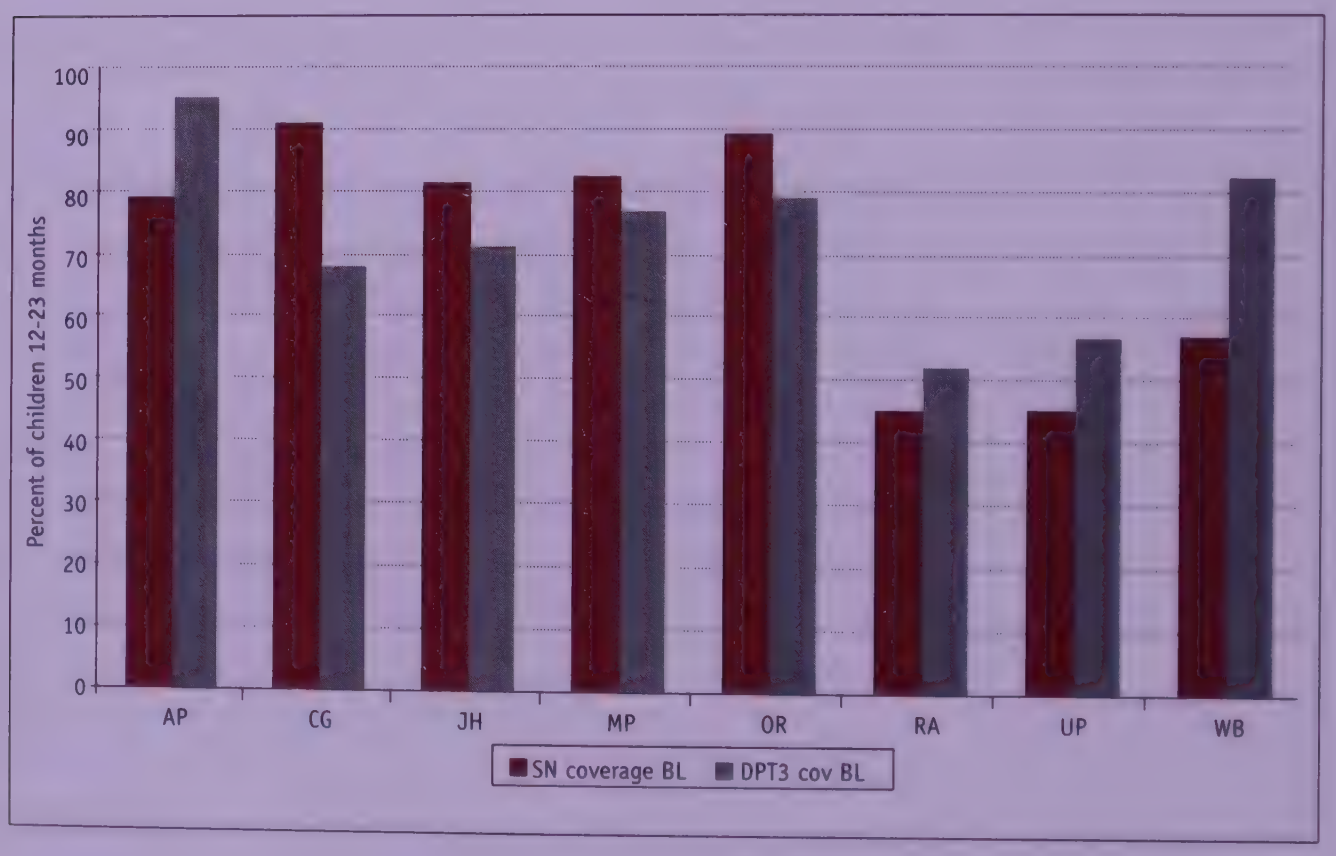


Figure 10.17b: **DPT 3 coverage vs reported receipt of ICDS food supplements when younger than 6 months, among children currently 12-23 months, Endline, 2006.**



programs, with the *panchayati raj* institutions also attending in some places. Either the NGO partners of INHP-II or members of the district teams of INHP-II attended these meetings. Issues of common interest would be discussed, particularly those concerning services provided by the ANM and the data related to them: immunization and antenatal care. The basis of these discussions was the data available from the monthly progress reports of the AWW and the ANM, supplemented by observations during field visits of the participating members. The difficulties arising in comparing AWW-generated and ANM-generated data in such forums, and some of the innovations attempted to smoothen out disparities have been mentioned earlier. Figure 10.19 provides an idea of the regularity of the BLAC meetings, based on data from the program MIS. The most regular BLAC meetings were reported from Jharkhand, MP and Orissa, at about 70 percent, but this was also as low as 20 percent in a few states. Three states reported increases in

Figure 10.18: **Proportion of AWW reporting ANM's presence in sector meetings, Endline (2006).**

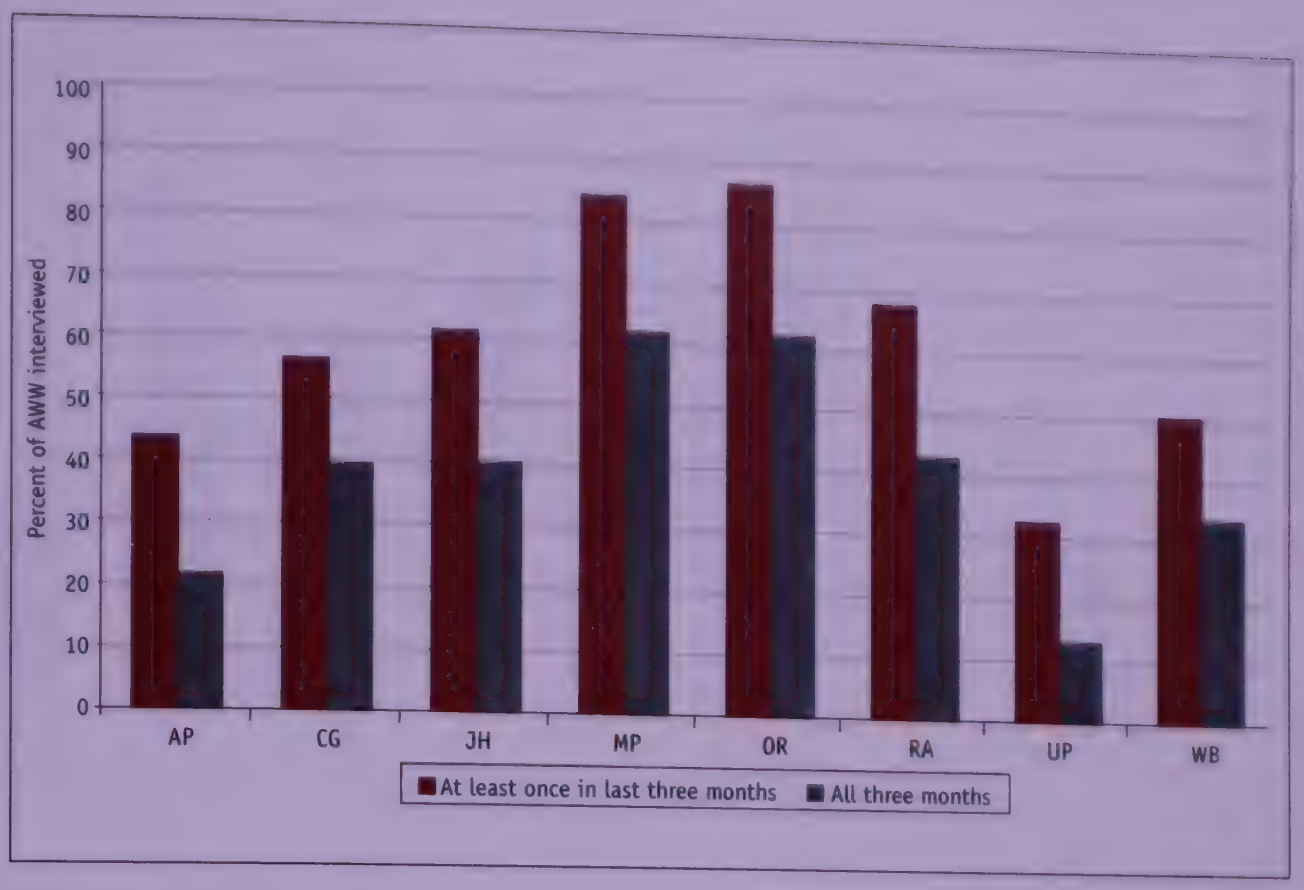


Figure 10.19: **Proportion of Block Level Advisory Meetings held at least once in the previous quarter, annualized averages, RACHNA Program MIS, 2004-2006.**

the last year as compared to the previous year. Taken together, it is evident that the regularity of the reported attendance of ANM in sector meetings is not very different from the reported regularity of BLAC meetings, and that neither were happening as regularly as envisaged.

Of course, these data do not capture the less formal interactions and coordination between the ICDS and health department functionaries, which are variable, but can be observed to be considerable, particularly at the grassroots. One telling piece of evidence comes from examining the influence of receipt of supplemental food on a wide range of services. Until recently, when the ICDS services became applicable to all rural families following a Supreme Court directive, the norm in ICDS was to identify beneficiaries eligible for supplemental food on the basis of their socio-economic status, and provide supplemental food only to these. Thus,

Figure 10.20: Full immunization among 12-23 month olds who received ICDS food supplements at ages < 6 months, and those who did not, Endline (2006).

the poorer families in the villages were all ICDS food beneficiaries. One would predict that such families would naturally receive greater attention from the ICDS, and their receipt of services from ICDS would be higher. One might also predict that, given the mechanism of NHD and the direct involvement of ICDS in the NHD, food beneficiaries would stand to benefit more. Both these predictions can be shown to hold true, as described in detail in the paper in this series about the role of supplemental food.[35]

To illustrate, Figure 10.20 shows the clear associations between food receipt and immunization coverage. However, what is remarkable is that the same bias towards food beneficiaries is seen even in services provided by the ANM but unrelated to the NHD, a functionary of the health department and not concerned with the provision of supplemental food. As seen in Figure 10.21, home visits by the ANM in the last trimester of pregnancy, an event unrelated to food distribution, was clearly much higher among (self-reported) ICDS food recipients than non-recipients. The explanation for this remarkable association is not entirely clear,[36] but this example is illustrative of a trend that is consistent across virtually every indicator that INHP-II measured – being an ICDS food beneficiary is associated with a distinctly higher likelihood of getting health services. One part explanation is that the AWW and ANM do coordinate their work mutually and share information and service burdens to a much greater extent than they are generally believed to, and that the ANM is guided by the lists of pregnant women and children on the AWW's registers, which in turn are biased towards food beneficiaries.

[35] *Paper 6: Supplemental Feeding: It's Role in a Large Scale Maternal and Child Nutrition and Health Program*

[36] As shown in Table 10.2, the proportion of respondents not receiving supplemental food from ICDS was very low in five of the eights states - other than Rajasthan, Uttar Pradesh and West Bengal, and the low denominators for non-recipients would affect the precision of estimates. Even so, the consistent trends are unmistakable. One possibility is that the non-food-recipients represent the most excluded families in the communities. Interestingly, in the case of the indicators illustrated, the association would seem to be clear for home visits than for immunization, which seems counter-intuitive. The implications become more interesting considering that food recipients are supposed to be the poorest in the communities.

Figure 10.21: ANM's home visits in the last trimester of pregnancy to those who received ICDS food supplements during pregnancy and those who did not, Endline (2006).

Specificity of Change: The Influence of INHP-II

It is not easy, from the available data, to irrevocably show that changes seen over the life of INHP-II were directly attributable to INHP-II efforts, much less to such efforts alone. A number of efforts, internal to ICDS and RCH programs, as well as facilitated by agencies other than CARE/RACHNA were simultaneously influencing change in different aspects of these programs over the same time period. It is impossible, and perhaps undesirable to attempt to dissect the differential impact of these influences. Certain different pieces of evidence do, however, indicate that INHP-II did exert specific influence:

- The most accepted method of attributing causal linkages between interventions and outcomes is the comparison with non-intervention areas in randomized studies. Two evaluation research studies conducted by the Johns Hopkins Bloomberg School of Public Health, using two intervention (INHP-assisted) and two non-intervention (non-INHP-assisted) districts has been mentioned. Changes in child caring and feeding behaviors were shown in these studies to be clearly greater in INHP-assisted districts in the case of a number of indicators related to newborn care and infant feeding, but neither nutritional status nor neonatal mortality showed significant change over the less than three years of the intervention period. This has been discussed in brief earlier.

- Since it was not feasible to have control areas during the INHP-II baseline and endline surveys, definitive conclusions cannot be inferred about what change the program brought about at full scale. Less direct evidence suggests that INHP-assisted areas performed better than other areas in the same states. Some illustrative examples were provided above, using NFHS-3 data for comparison.

- Some interventions that INHP promoted were relatively unique in their emphasis, and can be distinguished from other less specific interventions.

From the periodic rapid assessments (RAPs), for instance, it is possible to examine whether home contacts by AWW and ANM increased over time selectively over any other contacts for specified periods. Figures 10.22 and 10.23 present such comparisons, presenting percentage increments in the proportion of mothers reporting any contacts vs home contacts. If increases had been non-specific, all kinds of contacts would have changed either similarly or randomly. As can be seen in both instances, the jumps in home contacts, where they have occurred, are substantial, unidirectional and much higher than for other types of contacts.

There are a number of other interventions that are specific to INHP in their emphasis, such as other specified points of contact and advice, and specific behaviors such as quantities of complementary foods, feeding out of a separate bowl or plate, the identification and care of premature neonates,

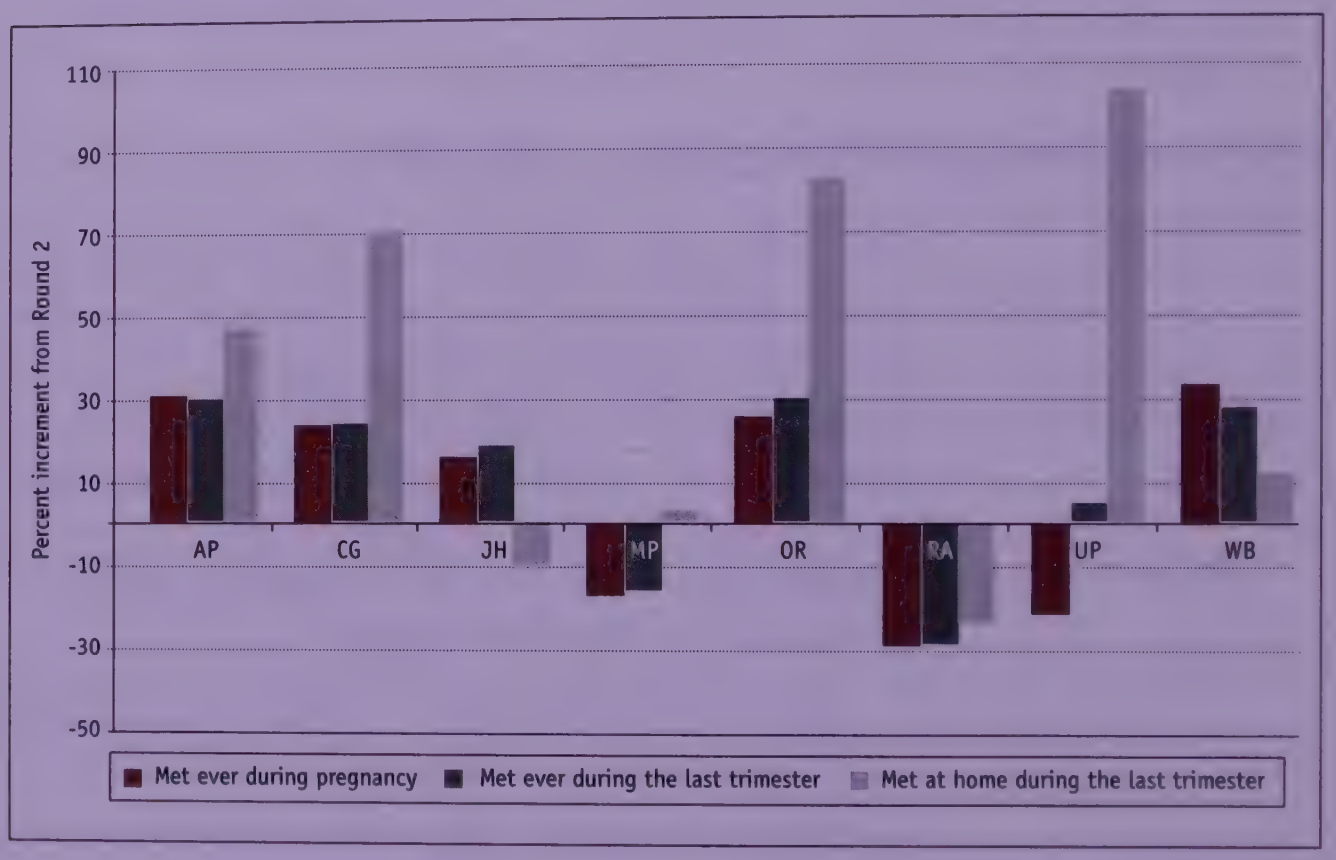


Figure 10.22: **Percentage increments in contacts by AWW or ANM during pregnancy between Round 2 (2004) and Round 3 (2005) of RAPs, mothers of children 0-5 months old.**

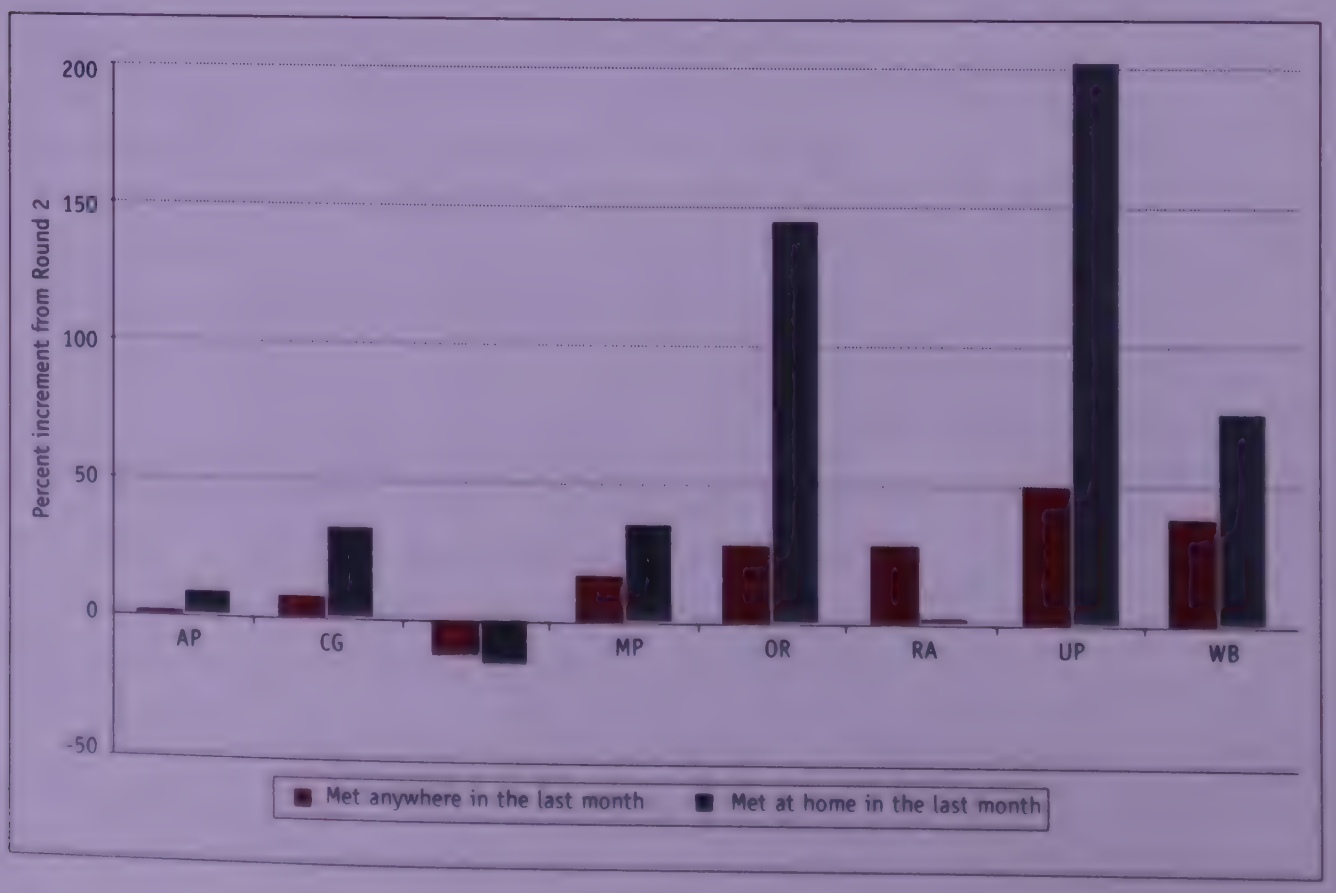


Figure 10.23: **Percentage increment in contacts by AWW or ANM at home vs elsewhere in the last one month between Rounds 2 (2004) and 3 (2005), children 6-11 months old.**

and the preparation during pregnancy for immediate neonatal care. Most of these interventions, although always a part of the national programs in principle, had never found operational emphasis earlier, and had probably never been measured in assessments at any appreciable program scale. Each of these indicators has been shown to have improved over time in many of the panel districts for which RAPs data are available, and in the districts where evaluation research was conducted. However, from within these data sets, it is not easy to find convincing "control" variables to make comparisons with INHP-specific variables in a manner similar to what has been illustrated for home contacts above.

The Cost and Cost-effectiveness of INHP-II

What did it cost to run INHP-II? At what cost was the catalytic effect achieved? What would it cost to run a similar intervention at scale in the future? Paper 12 in this series, using an activity-based cost analysis of the program as a unifying analytic framework. The study estimates that the annual cost of implementing INHP-II was between INR 527 million and INR 630 million, based on 2006 costs. The study is based on a detailed analysis of two districts within two states (Uttar Pradesh and Andhra Pradesh), carefully selected to represent the variation in the program. The costs considered include shared program costs, in addition to all direct costs. The maximum variation in the estimates costs was 11 percent. About 20 percent of the total cost was incurred on the capacity building and supervision of AWW, the single biggest cost component of the program. On this basis, it was estimated that it would cost about INR 57 million annually to replicate INHP in one "typical" state (nine districts).

The study also attempted a cost-effective analysis, based just on the estimated mortality impacts of changes seen in only three outcome indicators between the baseline and endline surveys: exclusive breastfeeding, vitamin A coverage and malnutrition rates. To quote, "The estimated mortality (only) impacts due to these three effects ... is 13,356 averted deaths and 380,719 DALYs gained. Comparing these annual impacts to the annual costs of RACHNA, and assuming that these impacts are due to RACHNA, it may be estimated that RACHNA's cost per death averted is 47,209 rupees (US $1,098) and its cost per DALY gained is 1,656 rupees (US $39). Bearing in mind that these are not definitive measures of the impact of RACHNA, despite the fact that these three measures only partially account for the impact of RACHNA activities, it may be concluded that from a public health perspective, RACHNA is a "good buy". The cost per death averted is the equivalent of 157 percent of India's 2005 per capita gross domestic product (GDP) of US $714, and the cost per DALY gained is 5.5 percent of the per capita GDP ... According to WHO ... criteria, because it has a cost per DALY averted that is less than per capita GDP, RACHNA is "very cost-effective" and is a good value for money." In the absence of a control or comparison group, these estimates should be considered indicative and not definitive.

Can National Programs be Meaningfully Influenced at Large Scale? Lessons from INHP

At the outset, there were few precedents of engaging national programs at operational levels for INHP to follow. This was perhaps the first time an external agency, especially an NGO, was taking on the task of catalyzing change at this scale in public health programs, with specific impact level goals. INHP-II was launched and completed even as debates continued about what might be effective ways of addressing child health at scale in India, which was contributing so much to the global burden of child malnutrition and mortality.[37] Much was therefore learnt on-the-job, as it were. Common sense approaches substituted hard-evidence-based, researched solutions, which were scarce, and continue to be scarce, in any case. The inherent variation in administrative and technical efficiencies across districts and states, within both, implementation teams of ICDS and RCH, and INHP teams, added to the complexity. Thus, it is more fruitful to learn from the varied lessons that the project threw up, than to think of the project as one monolithic approach that passed or failed. This last section of the paper attempts to first, describe some important challenges for an external facilitator in dealing with systems, and then to briefly pull together possible answers to some relevant questions related to the significance of the INHP experience, and its implications for strengthening Public Health systems

The Special Challenges in Working with Public Health Programs, from the Perspective of an External Catalyst

Competing priorities

One of the most distracting aspects of working with ICDS is the wide range of external influences that the program is subject to, at all levels. A number of different development assistance agencies attempt to strengthen the program mostly at national and state levels, not often in coordination or even necessarily in similar directions, while other government departments, including the district administration, have learnt to depend upon the ICDS network to either extend their reach to every village or to obtain village-level information. This is a widely-discussed problem, but one that requires careful correction. The answer cannot be to make it completely insular to external influence, but to create moderating mechanisms which insulate the program from sudden extraneous workloads, while providing ways of continually evaluating performance and refining program strategies. Such mechanisms are currently ad hoc, at best, and usually not effective: at any given time, ICDS functionaries carry significant burdens of work unrelated to ICDS objectives – or only notionally related, and are too fatigued to focus consistently on their primary tasks. The programs of the health department, too, suffer similarly. However, given the much wider range of programs they are anyway subject to, it is a little more difficult to identify truly extraneous load.

[37] INHP-II had committed to mortality and malnutrition level impacts as goals even though it was largely uncertain, as of 2001 when INHP-II began, whether and to what extent interventions addressing immediate causes of malnutrition and mortality could be addressed at scale. Even as of 2008, the uncertainty persists.

The projected political mileage often determines relative priorities of different interventions in a program. Thus, both ICDS and health functionaries are often caught up with the implementation of a certain scheme in high political favor in a given state at a given time, sometimes to a remarkable level of exclusion of all else, including their "routine" work. This is justified at the highest levels as a democratic mandate, and often dressed up with exaggerated claims of achievement. In reality, even those schemes that are somewhat effective usually disrupt attention from essential health services, because functionaries quickly learn that they will be held to account only to a particular favorite scheme, and their non-performance in other areas is of no consequence. Since most external agencies function in tight project timelines, the loss of time and effort as a consequence of such over-ruling priorities is immensely frustrating.

Poor outcomes focus

Both, health and ICDS programs, like many other government programs, have inadequate mechanisms to ensure an outcomes focus, and remain burdened largely with monitoring inputs – activities, tasks, administrative chores. The MIS of both departments are designed for such a focus. This makes it difficult for an external facilitator to argue for reform towards effectiveness – the frames of reference are not easy to reconcile. Long decades of such activity focus have also blunted the abilities of program leadership at most levels to think and act differently.

Lack of will to ensure convergent action

Much as one might wish otherwise, strategic collaboration between the ICDS and health programs remains poor, despite overlapping goals. The best that can be usually achieved is operational convergence at the level of the frontline workers – the AWW and ANM, and even casual observations reveal the gross opportunities missed for synergistic functioning. To an external observer, it almost seems as if actions to demonstrate convergent functioning are a matter of political correctness than genuine felt need of the two departments. If the country is to make a serious effort to get close to the millennium development goals related to maternal and child health and nutrition, it is vitally important that ICDS and health programs forge a strategic partnership and plan. Such a plan would explicitly estimate the extent of reductions in mortality and malnutrition that can be brought about by the direct interventions of these programs, and identify strategies, including detailed log-frames and timelines for achieving the goals, as well as mutual responsibilities and mechanisms for collaboration and joint monitoring. Such an approach will also permit the identification of underlying causes that direct intervention programs are not designed to addresses, and to plan for other development efforts to address these. In this way, accountabilities can be fixed and realistic plans made and executed.

The effective vs. the visible

It is a well-recognized principle that, in any organization, sustained change for the better depends on the nurturing of individuals and encouraging them to excel. The government is no exception, and most government programs are beholden to a handful of dedicated individuals who hold up the world, as it were. Apart from moral encouragement by the occasional enlightened senior bureaucrat, these individuals get little by way of incentive to continue to perform. The incentive

not to perform is thus considerable, and the easiest way to outwit the occasional determined administrator is to persuade the more dedicated colleagues – or subordinates – not to perform above the mutually decided "standard". This makes it very difficult to move things from the top, or to expect that good practices will diffuse easily among the functionaries. Reversing such tendencies requires long term investment in a set of "soft" approaches, which are attractive neither to time-limited projects nor to limited tenure bureaucrats and politicians. Both are instinctively attracted to immediately visible, "hard" interventions that involve expenditure on materials rather than people.

The agonies and ecstasies of tackling bureaucracies

An agency seeking to influence the national programs would naturally seek "entry points" that are likely to provide maximal leverage. Most commonly used approaches include attempting to identify and win over power centers within the programs – influential politicians and bureaucrats, and at times technocrats. Experienced campaigners would probably concede that such approaches have limited effectiveness – usually because it becomes person-centric, depending on the continued incumbency of a certain powerful individual, and because it does not by any means guarantee the actual implementation of the approach or intervention that the catalyst wishes to promote. One quickly realizes that program bureaucracies can be efficient – if they so wish – in issuing orders for actions – such as instructions for adoption of a new approach, orders for training functionaries, even for recruitments and procurements – but the best plans can be laid low by the middle level program management at the district level, which is ultimately responsible for implementing anything in letter and spirit. Cadres in health and ICDS programs at this level are typically constituted by relatively senior officers of the district, who for various reasons do not have the interest and motivation (and often, the competence) to take on fresh challenges and to change status quo. It may be no exaggeration to say that no initiative till date – including INHP – has found an adequate answer to this challenge. This is also often the point of frustration for district collectors and enlightened bureaucrats who want to induce meaningful change. One approach that has gained currency in the last decade is the strengthening of democratic accountability mechanisms, including usually the *Panchayati Raj* institutions. Predictably, program leadership and functionaries are reluctant to submit to oversight by such "external" influences, and the democratic institutions are themselves vulnerable to co-option. Also, as discussed earlier, while gross matters such as attendance by health personnel or the availability of supplies can be relatively easily monitored by such mechanisms, outcomes are often determined by subtler quality of care variables that do not lend themselves to easy monitoring by lay persons. These aspects require continuous technical and managerial inputs through internal accountability mechanisms within programs. In a basic sense, external accountability mechanisms can only go a small distance, and there is little alternative to strong internal accountability systems in programs.

By and large, individual responses of bureaucrats and technocrats to external agencies' projects can be characterized as cautiously welcoming, and even formal approvals for different activities can usually be obtained after tolerable delays. Thereafter, delays in implementation are almost inevitable, because of

the many reasons discussed above. Usually, other priorities intervene (political elections of any kind being the most disruptive – making it difficult to move anything for months at a stretch), and even high levels of project funding may not be sufficient insurance against major delays. Agencies have learnt over time to accept this as an occupational hazard, but it is certainly an area calling for reform, if the programs must optimize on technical development assistance. Most bureaucrats are well aware of these limitations, and they often challenge agencies to show them a way forward within the limitations. The refrain is, "we know these problems and we admit that we find it difficult or impossible to perform, because of them; but you – who have greater flexibility – should be able to find a way out. What is the point if you also complain about the same problems?" This interesting argument provides a powerful point of entry.

While on one hand, there is cautious acceptance of any new intervention or approach, there are serious limitations in the internal capacities to assess evidence and base decisions of wide replication on sound reasoning. Similarly, there are capacity limitations in being able to fine-tune interventions and strategies to maximize outcomes, even after a basic version of a strategy actually begins implementation. These limitations are shared to a variable extent by different development agencies, which all have a tendency to push limited agenda. Such limitations come to the fore most visibly when a certain approach is sought to be widely applied without adequate assessment and refinement, sometimes at the behest of an influential external player, at others by internal bureaucratic or political compulsions. At times, there is cursory or no consultation with development partners on such decisions, although the trend over the past several years is towards greater transparency. At all times there is reluctance to give sufficient time for an intervention to become established and assessed in a part of the universe before wider implementation, largely because uneven application of interventions is administratively inconvenient, and at times because of sheer impatience. Sometimes, important initiatives get lost in wrangles and one-upmanship at senior decision making levels within the government, while agencies await decisions, totally in the dark about what is holding up the decisions. When one considers the extent to which individuals within the systems can push or derail initiatives, one marvels at the amount of elbow room that seasoned bureaucrats can provide themselves in what otherwise appears a system of established rigidities. An external agency is usually left praying that it may encounter "favorable" officials.

Some other well known challenges are – the frequent transfers of key officials at different levels, necessitating a lot of ground work to be redone with fresh incumbents, whose views and priorities might be entirely different from the previous ones; the reluctance to change established procedures, such as those associated with records and reports; the absence of reliable denominators in monitoring systems, rendering mounds of monthly reports virtually useless; the absence of information on most behavior-related indicators in the routine information systems; the difficulties in coordinating with other wings of the government, such as mass communication, education, etc.; outdated communication strategies; "leakages" of resources of all description.

Each of these poses difficulties for an external facilitator, and INHP-II had its share of challenges. It had to find its way around at least some, in order to function effectively. The rest of the section briefly summarizes what was achieved by the systems despite these challenges, and how INHP-II approaches may be relevant to other similar efforts.

Interpreting the Evidence: What Did the ICDS and Health Programs Achieve During INHP-II?

In simple terms, the INHP-II experience appears to have demonstrated that it is possible for national public health programs to produce measurable outcome level results in relatively short periods and for an external facilitator to do meaningful business with these programs - at scales that are convincing. The change that came about was not uniform across all areas, but appears to have been largely unidirectional (positive change) for most indicators, wherever change did take place. There is also considerable evidence, from the most objective sources available (the mothers and families) that such outcome level changes happened in parallel to increases in the use of processes that were predicted to be able to bring about outcome level change (particularly, actions taken by the ICDS and RCH program functionaries at household levels). In the case of the more specific outcomes, strong associations have been observed between those who received a service (such as advice from a health worker) and the reported practice of a desired caring or feeding behavior, and, at least some contexts, even associations between such services and impact on nutritional status and mortality. Wherever comparative data was available, most outcome indicators appear to have done clearly better in INHP-assisted areas.

The measurements and assessments were not comprehensive, either in their geographic scope (disaggregated estimates are not available even for all the districts, let alone smaller areas) or in the outcome and process variables that were examined (several important explanatory variables have not been measured), or in the availability of a non-intervention comparison group in most instances. These are largely unavoidable limitations of any large, widespread program, and consequently, conclusions about achievements and reasons for successes and failures cannot all be definitive.[38] What is clear, though, is that outcome levels changes (changes in service coverage, levels of practice of specific caring and feeding behaviors) were not restricted to small pockets – the changes in most of the important indicators were observed in at least half the districts and states for which measurements (sets of surveys) are available. Considering that even one district represented hundreds of villages, the scale of each district was quite substantial. Positive change in even one district should be noteworthy at such scale.

Different magnitudes of achievement in different contexts reflect inherent or induced variation in the many program variables (time and attention given to the interventions by ICDS and health program functionaries, levels of understanding

[38] In the ideal world, one would wish for interventions and approaches to be "well-proven" before taking to scale, but this does not always happen. Large nutrition intervention programs quite often report better results than small, controlled studies, for instance: if the results of the latter were to strictly guide the larger programs, there may not have been any large programs at all.

among frontline workers, the consistency of supervisory inputs and the inputs from INHP district teams). Yet, much of the variation in such program variables appears to have ultimately manifested as differences in the strength of focus of implementation: close field observations suggest that the specificity of focus was weak in districts and states where measurable change was small or absent, and proportionately strong where change was substantial.

Conventional wisdom had suggested that the one year intervals between measurements (such as between the rounds of RAPs) would be too short to be able to measure change in behaviors. In retrospect, this interval has turned out to be not just sufficient to demonstrate change (and lack of change) in behaviors and service coverage, but also to diagnose gaps in implementation and to direct mid-course corrections. Also in retrospect, one can confidently conclude that if an indicator of behavior change (or service coverage) did not show significant change over consecutive annual surveys (say, at least 10 percentage points, preferably more), this reflected implementation failure of correctible magnitude – and it was not simply a matter of waiting a little more for "interventions to mature". Some of the eight panel districts found ways to make corrections by the next round, others did not. This lesson was not so clear until the third round of RAPs was completed, however, when it was possible to examine how different districts had fared over the previous two years. It became clear that in most instances, the districts that achieved better outcomes had indeed been more focused on ensuring quality of processes (such as home visits and supervision). A very few indicators just failed to take off – such as the very strictly defined thermal care indicator, "immediately dried and wrapped at birth",[39] and even in this case, while it may be comforting to attribute the failure to "strong cultural" reasons, it also probably reflected the lack of sufficiently sharp focus in implementation. By the time all this could be fully appreciated, the project was close to the end.

It is necessary therefore to view the baseline-endline comparisons in Table 10.2 in the light of the fact that these lessons were learnt relatively late in the life of the project, and that even by design, the project was not expected to reach full scale until late in its life. Although the difference between the two assessments was five years, and represented, in both cases, the full universe of the project, interventions reached full scale only in the year prior to the endline survey. Importantly, again, most changes appear to have come about between 2003 and 2006, when interventions, by design, began reaching replication areas - that is, began reaching scale. This appears to indicate that there is indeed a scale effect, where interventions "take off" very rapidly at some critical point, possibly when several key variables fall in place.

Some of the indicators used (and the ways in which they were used) for tracking behaviors and processes were not "standard" (such as, the indicators of amounts

[39] This was defined as the newborn baby being dried and wrapped before the placenta was delivered, with the understanding that this is the period during which the newborn is most vulnerable to hypothermia, and if the care-givers were indeed sensitive to the rationale for thermal care at birth, this indicator should improve. As discussed in the paper, *Enhancing Newborn Care*, in this series, the practice of immediate drying and wrapping defined in this manner was very low (less than 10 percent) to start with and remained very low, despite small improvements in some districts. Since this indicator was not measured at the project baseline, it is not mentioned in Table 10.2. Another thermal care indicator, the delaying of the first bath, showed dramatic increments from between the baseline and the endline, and an examination of the RAPs data suggests that much of this improvement happened after 2003, when the first round of RAPs wae conducted.

of complementary feeding, or those used as measures of processes and outcomes related to newborn care), and they were not formally validated during the project life, but there were no standard indicators available for assessing these processes and outcomes, and the project did not have the time to wait for research to make them available before using them. They may not have been perfect, but they provided stable and internally consistent information over many rounds of surveys. Also, most such indicators proved immensely useful, not just in measuring change, but as drivers of program implementation and management.

The project has not convincingly demonstrated impact level change (or lack of it), that is, change in child malnutrition and mortality. Possible reasons have been discussed in earlier sections: partly, the problem lay in the difficulties in measuring mortality change in multiple program contexts, and partly in bringing about uniform change in the immediate determinants (caring and feeding behaviors, service coverage) of a magnitude that could measurably alter malnutrition and mortality rates. Part of the problem also probably lies in a significantly less than complete understanding of the causality of malnutrition in the South Asian context. The project did not, by design, address all the immediate causes of mortality and malnutrition. Notably, it did not utilize certain technological remedies of known value, such as the management of sepsis and asphyxia management or the treatment of childhood illnesses with antibiotics, zinc supplementation and oral rehydration. It did address preventive actions that could be practiced by families themselves with support from health care providers, and as it turned out, accumulating global evidence (as summarized by the *Lancet* child survival series (2003, 2005, 2008), for instance), has, in effect, endorsed the usefulness of most of the interventions that INHP chose to promote. The Lancet articles also estimate a predicted effect of high coverage of each intervention on child mortality, which should be applicable, with appropriate caveats, to the project context as well. Positive change was demonstrated in the coverage of most of these interventions during INHP-II. In the case of many interventions (for instance, thermal care, early breastfeeding and cord care among neonates, and complementary feeding practices and one- and two-dose vitamin A supplementation among older infants), coverage increased from extremely low levels to reach 30-50 percent or more during project life in several districts and states. By implication, these outcome-level changes must have had some impact on mortality and malnutrition, even if this was not measured, and with greater coverage, these outcome changes should lead to measurable impact. In this context, it is instructive to note that since early in this decade, there have been multiple powerful initiatives at the national level to introduce some of the technologically.driven interventions mentioned above at large scale, in the belief that these have the best chance of producing impact, but many of these have not been able to reach implementation stage yet.[40]

In summary, it is clear from the INHP experience that, given sufficient operational focus, existing public health systems largely the ICDS in close coordination with

[40] The INHP package has been criticized for not having included some of these technologies, which would presumably have provided greater impact. However, almost none of the technologies were legally available for delivery through existing outreach mechanisms at large scale in India, even until INHP-II ended.

with RCH program, can take simple interventions to families that need them, at large scale, and bring about outcome level change. The methods used by INHP also strongly suggest that facilitation by an external catalyst can drive this change.

Specific Gains for the Systems, Beyond Immediate Outcomes

Besides achieving better outcomes during INHP-II as discussed, the ICDS and RCH programs made several long-term systemic gains.

Strengthened local NGOs

Most state governments routinely seek the help of local NGOs for managing specific components of a number of programs, and the NRHM and ICDS have explicit budgetary provisions for nurturing such partnerships. While this is an attractive proposition, since it should bring together complementary strengths, such partnerships are not easy to sustain, and break down frequently. At least partly, the inexperience of NGOs in dealing with governmental procedures is responsible. As described earlier, a very large number of NGOs (at least one in every district), many of them relatively new to health interventions, were involved in INHP-II from the outset, initially helping develop Demonstration Sites, later involved in training activities and participating in block level ICDS-RCH convergence meetings, participating in data collection for district level surveys, and yet later facilitating sector meetings and monitoring progress of outcomes and processes and providing systematic feedback at sector and block levels. This practical grounding in program implementation, management and monitoring has left behind sizable teams with deeper understanding of programs and constructive engagement with government systems – a resource that can be tapped by the government programs in various ways. Besides being managerial resources, the minimum technical content that can be expected of these teams is a useful familiarity with maternal and child health and nutrition issues. In the process, interesting and potentially very useful informal partnerships have been built up local NGOs and communities, including community institutions, as well as functionaries of ICDS and health programs. In the typical Indian rural context, such relationships are often the lubricants that facilitate smooth interventions. These NGO teams hold much potential for learning and contributing to wider areas. The development of this NGO resource is particularly significant in the context of the indifferent experience with Mother NGOs of the RCH programs in many states.

Responsive community-based organizations

A significant proportion of the INHP-II effort was expended on exploring ways to involve community-based organizations of various descriptions, formal and informal (women's self-help groups and other women's groups, *panchayati raj* institutions, etc), in the program. Such groups were oriented to women and child health and nutrition issues, to the functioning of national programs, to their entitlements and to their own potential roles in catalyzing change at local and administrative levels. One comes across many anecdotal accounts of enthusiastic participation of such groups in various initiatives. The impact of this, while difficult to measure, is certainly palpable, and quite extensive – for instance, active groups of this nature were an essential part of all the demonstration sites,

constituting 10 percent of the project universe, spread evenly across blocks and districts. Groups of Change Agents trained and sustained through INHP efforts, can be found in almost half the villages in the project universe. A significant proportion of these Change Agents got elected to *panchayat* bodies or recruited as ASHA under the National Rural Health Mission in several states. Such investments are potential "seeds" that can be tapped for future initiatives.

Training mechanisms in every block

The extensive training programs of INHP-II involved, besides the hundreds of thousands of participants who were trained, a large network of resource persons in each district. When asked to plan training strategies for an unrelated program, INHP district teams recently estimated that it was possible to quickly raise teams of at least 50 reliable resource persons in each of the INHP districts, comprised of good trainers within the ICDS and Health Departments, the government training institutions, as well as NGOs, academics, committed private practitioners and other free-lancing consultants with training experience. If needed, more can be inducted at block levels. Many of these resource persons are familiar with participatory training methods, and with a wide range of technical topics, and several have capacities to produce training materials and conduct trainers' training programs. Also, training logistics have been worked out so often that organizing training programs in these districts is now "standardized". Normally dormant between training programs, almost any kind of health and nutrition interventions can activate and utilize these mechanisms.

Convergence forums

The participation of ANMs of the RCH programs in ICDS sector meetings, and the joint periodic (monthly or quarterly) reviews by ICDS and RCH functionaries at the block level have been described earlier. The convenience of these forums for discussing and resolving coordination issues between AWW and ANM to facilitate maximal coverage of services has been widely appreciated by functionaries of both departments in most districts. Some of the concrete ways in which such forums have been fruitfully used were also described in earlier sections, and the extent of contribution of ICDS to achieving coverage of health interventions was presented. The idea of convergent functioning of these two departments is not new, but it had probably never materialized consistently over such a large area through replicable mechanisms to produce demonstrated, measured outcomes. Sometimes, when the formal forums become inactive, less formal links between program leadership at block levels remain alive. Sub-district level functionaries of ICDS and RCH in the INHP districts are now accustomed to establishing and sustaining dialogue about functional program issues.

Decentralized data generation and use

When INHP-II started work, the only source of district level data was the DLHS surveys, conducted every few years. Even these were of very limited use to child health and nutrition programs because they generated very little useful information other than immunization coverage rates, and this was also limited by the small sample size of children within the overall sample of about 1000 women of reproductive age per district. During INHP-II, at least one round of large sample surveys generating information on key process and outcome indictors

was conducted in virtually every project district, starting with the three rounds of RAPs in a panel of one district in each state, followed by less comprehensive surveys in over 50 other districts, where data collection was more "internal". This experience helped standardize tools, training and data handling procedures, and INHP teams now facilitate such surveys in a number of states. A variety of options have been explored to contain the cost and optimize quality of this data, and while limitations remain, it is now possible to generate robust enough estimates for a wide range of indicators at a district (or even lesser) level, for a small fraction of what it costs to conduct similar surveys through more conventional means. Concomitantly, ICDS and RCH program staff in many of these districts is now familiar with the use of surveys to generate estimates of service coverage. This experience is now available for wider application.

Understanding and addressing exclusion

One of INHP's most overriding concerns has been to ensure inclusion of vulnerable families and individuals in public services that are designed to reach them, but often do not. Many forms of exclusion – based on social or economic inequity – were explored and attempts were made to devise ways to address them during INHP-II, as discussed in an earlier section. As discussed in several other papers, equity gaps in the receipt of several MCHN services have either remained steady or have narrowed, when the overall coverage improved over the course of the project, indicating that the poor were reached as often, if not more often than the rich, during this period. Virtually every training program in INHP-II explicitly included discussions on reasons why people become excluded, and a wide range of interventions were devised to address these. Resultantly, this has probably left behind with program functionaries, considerable awareness of the reasons why people may get excluded, and of the strategies to minimize such exclusion while delivering services.

Causal thinking to drive planning and review

One of the core interventions of INHP was to encourage rational, evidence-based approaches to program planning and reviews, at all levels. This was a deliberate, conscious step away from the usual activity-driven planning, giving all activities a results orientation. Thus, for instance, whether in district level planning workshops or in sector meetings and training sessions, participants were persuaded to ask themselves why the coverage of a particular service, or the prevalence of a certain desired child caring practice was low, and to develop an action plan to deal with this cause. This process was considerably boosted by the use of independently collected survey data mentioned above, and forced program functionaries to look at variables and reasons beyond what was routinely collected and reported in the existing monitoring system. This also forced a minimum technical rigor in the program content, demystified outcomes and actions, and exposed redundancies. It often led to introspection among program functionaries, and regret that they had not followed such rational approaches from the outset – some of them expressed how much more they might have achieved if only they had such insights earlier, or if they had the liberty to apply what they were learning without the burden of meaningless activities. The extent to which thinking opened up probably varied with the skill of the facilitators and the levels of motivation of the functionaries. But it is probable that a critical

mass of functionaries now exists within the systems in these districts, mostly at operational levels, who have internalized a result-oriented, causal thinking approach, and who can be tapped for achieving greater program effectiveness, perhaps even in fields beyond child health.

The INHP Approach to Engaging Systems: How Replicable? How Relevant for Other Interventions?

As mentioned at the outset, INHP-II started with certain assumptions, which shaped the original content of approaches to systems strengthening. As then articulated, this comprised strengthening of training institutions, and reforming the way information systems influenced supply-systems. As deeper understanding developed about what constituted gaps in the programs, these objectives seemed to become more distant, and "softer" aspects of the functioning of the systems were targeted. Eventually, these soft approaches became central to INHP's approaches to engaging systems, and indeed, became the core component of the project itself. The approaches used in INHP-II for engaging ICDS and RCH programs may be summarized as below:

- *Levels of engagement*: The greatest intensity of engagement was at sub-district levels, mostly at the levels of the ICDS supervisor, the AWW and the ANM. The engagement at the district level was crucial, however, in getting program and administrative leadership to permit and encourage engagement at more operational levels. The district level engagement also drove the closer coordination between ICDS and RCH programs at operational levels. Joint planning workshops at the district level, using available data, often initiated change.

- *The nature of engagement* changed over the life of the project, but mostly involved supporting the adoption of specific processes that were designed to take effective technical interventions to the people, and predicted to lead to outcome level change. Initially, it was a set of four "best practices", and later a refocusing and strengthening of basic tracking, supervisory and monitoring systems internal to both national programs, particularly ICDS. Specific tools, widely adapted, anchored these processes. The causal thinking approach followed in many states and districts, of first discussing why mortality and malnutrition are high, and then evolving operational approaches to specifically address these causes, appeared to have paid dividends. The development of an elaborate "impact hypothesis" in this manner was otherwise not a common practice in program planning.

- *Capacity building*: Training was the most extensively used mode of building capacities to bring about change. As described earlier, the net exposure of individual ICDS and RCH functionaries to formal training under INHP was about two days, but was followed by constant supervisory emphasis on the selected processes and desired outcomes. Later, training was completely incorporated into routine sector meetings of ICDS and other available forums, a strategy that enabled very rapid scale up.

- *The use of data:* Over time, there was increasing emphasis on outcome level change, and in the use of data to determine the status of outcomes (service coverage and key caring and feeding behaviors). Eventually, as discussed above, most districts had at least one round of assessment of outcomes through sample surveys during INHP-II. This data was shared widely within the district, and even when not analyzed in depth, was sufficient to drive home the point that many desired outcomes had low coverage, and that processes likely to increase outcomes coverage were not being implemented as assumed. Measured facts proved to be powerful catalysts.

- *Institutionalizing convergence between programs*: Block and sector level coordination forums between ICDS and RCH, often with involvement of the *panchayati raj* institutions, were consistently created or strengthened, and served to ensure at least a minimal functional dialogue between the two important programs.

- *Influencing policy*: The lessons from the field and results of surveys informed engagements at state and national levels, and influenced several initiatives, including several state nutrition policies, the eleventh five year plans for ICDS and NRHM, and the reform of the ICDS MIS.

As indicated earlier, most of these engagement approaches were developed through experience and common sense, rather than formal research, and often involved participatory problem solving exercises with program functionaries. Most of these are therefore inherently replicable.[41] District and State teams of INHP, aided by local NGO teams working for INHP, were at the forefront of such engagement. Most of them did not have formal medical or public health qualifications, but had learnt to engage existing systems and facilitate program implementation from experience. Internal planning and review sessions within INHP provided them the necessary technical background of the interventions, as well as the program logic. They were backed by technical teams based in the INHP headquarters in Delhi. While a set of teams with deeper technical backgrounds was deemed desirable from the outset, the largely non-medical nature of these teams had important practical advantages: their engagement with functionaries of ICDS and RCH was probably less threatening, and more broad-based than would have been possible with medical teams. These teams were able to involve themselves in tasks that might have been seen as undignified or peripheral by medical consultants.

More importantly, it was not easy to find persons with public health backgrounds and experience in the areas of concern to INHP-II in sufficient numbers even to fill the complement of technical posts available throughout project life at the headquarters. It was a slow realization that hit the project leadership after repeated attempts to hire specialists – that such specialists, even if some existed, were not really available for such work in India. Malnutrition was an ancient problem that public health programs in India had simply not paid attention

[41] In INHP-III, many of these approaches are being standardized and replicated in 21 totally new districts in Andhra Pradesh and Chhattisgarh.

to since decades, and funding agencies – and NGOs – had all but forgotten. Resultantly, there was hardly anyone who had the requisite experience of bringing about change in infant feeding behaviors and other immediate determinants of malnutrition at any appreciable scale, in a country where malnutrition levels reached 80 percent in the second year of life. The problem was reversed in the case of child mortality: the bulk of residual mortality was neonatal, a problem recognized since less than a decade, and few had an opportunity of building up experience in reducing it in program contexts. This is a situation unlikely to change soon, unless concerted efforts are made to nurture such program specialists.

In any case, the lack of highly specialized teams makes the INHP-II approaches more replicable, at least with respect to catalyzing change in ICDS. The experience with the RCH and other Health Department programs is more limited, but such an exercise is likely to be somewhat more difficult – not simply because of the necessity to engage with technical specialists, but also because supervisory hierarchies are less functional than in the case of ICDS. Simply put, while both systems would benefit from interventions that sharpen technical focus and enhance managerial effectiveness and efficiencies, the Health Department is in greater need of management inputs. The ICDS program in many states has a better accountability structure, but lacks technical sharpness. An external catalyst agency should be successful if it followed an approach that permitted such gaps to be identified and addressed.

How different are the INHP approaches from other approaches? The development and use of an "impact hypothesis" or log-frame is still not common practice in public health programs, certainly at operational levels. The identification and measurement of key variables is also different from common practice. Many earlier approaches to engaging systems by other agencies have stopped at providing training, sometimes far more intensively than INHP did, and measuring change in terms of skill and knowledge enhancements of service providers. They rarely identify clearly, and track or measure, processes that are critical to bringing about outcomes. Similarly, outcomes themselves are not frequently measured, as they were during INHP-II.

Would the approaches of INHP-II work for interventions other than what the project promoted? In principle, yes – any intervention that needs universal service coverage or behavior change at the family level should work as well as it did under INHP, or better, since lessons are now available from this project. In practice, there are bound to be limitations. INHP-II has probably explored the whole range of child health and nutrition interventions that the ICDS program is mandated to deliver; any new interventions, such as the involvement of ICDS in management of sick neonates, will first need policy level change. The Health Department has a broader mandate, but here, the problem is of the lack of a robust enough delivery mechanism. The ASHA initiative under NRHM comes with hope of strengthening the delivery mechanism, but is yet to prove itself. In fact, the coming of the ASHA has, at least for a while, made it difficult for ICDS as well. The differential incentive structures in the face of an overlap of

responsibilities between the AWW and ASHA make for an uneasy coexistence, and the ICDS program already appears to be reconsidering some of its commitments to health goals. If this happens, the loss will be for the common people.

The issue of the replicability of INHP approaches, however, comes with caveats. CARE-India found it simpler to engage ICDS at such scale at operational levels because INHP was built on a platform of trust based on a decades-old close relationship. The relationship was strong enough to withstand the cessation of supply of food commodities by CARE to ICDS in 2003. But besides a supplier of commodity, CARE was also seen as an international NGO of repute, having field presence and resources, available to work with the government in handling emergencies such as natural disasters, an agency comfortable to work with, having committed staff who could be counted on to provide help in many ways, and lately, as a technically capable organization, able to support technical training and conduct credible large scale health surveys. Such credibility can, of course, be built by a committed agency (if not a project) for itself over time.

A recognized limitation of the INHP approach was that it attempted to change fundamental operational processes of ICDS such as the daily routine of AWW and her supervisors, without reforming all technical interventions of ICDS as much as it did the child health and nutrition interventions. For instance, pre-school education, constituting a large part of ICDS work, was not touched. This limited the extent of process reform, and also made it less comfortable for ICDS to deal with reform. Over time, the implications of this limitation became more obvious. A more comprehensive approach, perhaps in partnership with other agencies or projects that can provide the needed complementary technical skills, would be more desirable.

Finally, and relevantly, it should be mentioned that while the broad approach to engaging systems has found consensus within INHP teams, there may not be consensus on all the details. For instance, by the end of INHP-II, there were numerous versions of almost all the tools that characterized the strategy from 2005 onwards in different districts and states. Some such variations have been discussed earlier. It is tempting to believe that, with time, some of these variants could have been tested and reconciled, and a narrower consensus arrived at.

The most important lesson from INHP-II appears to be that measurable progress can be achieved at the outcomes level by the national programs despite their varied problems, and this can be catalyzed by identifying and utilizing the opportunities that are still available, and by tapping into the goodwill of the many concerned program functionaries and officials who hold the systems together against tremendous odds.

(Contd. from inside of the front cover)

outcomes (service coverage and levels of practice of caring and feeding behaviors); (c) evidence that project areas have done better over the same period in the case of indicators for which comparable estimates are available for non-project areas; (d) evidence that the most substantial increments occurred when the project interventions began reaching scale; (e) evidence that change was more substantial for indicators which were specific to INHP, as against indicators common to programs; (f) evidence of effective convergent functioning of ICDS and RCH programs. While the final evaluation found an eight percentage point decrease in the proportion of malnourished children 12-23 months old as compared to the endline, program-wide, neither of the evaluation research studies conducted in two districts demonstrated significant change in malnutrition or mortality rates. Possible explanations are discussed.

In the light of available evidence, the final section discusses the special challenges faced by external catalysts like INHP in dealing with government programs, the characteristics of INHP approaches to some of these challenges, ways in which the programs have been strengthened beyond producing outcomes, as well as the potential for replication of these approaches. Many of the INHP approaches were based on common-sense and experience, since the project did not have the luxury of evidence for or against approaches to make a difference at this scale. The paper concludes that despite formidable difficulties, the national programs can achieve measurable change in critical health and nutrition indicators over relatively short periods of time using methodical approaches, and that an external catalyst can do meaningful business with national programs at scale.

This series of working papers was envisioned and written by persons actively involved in the program design and implementation. USAID/BASICS directly contributed to the writing and production of this series of papers in several ways before it closed in India in December 2007. A number of data support and field staff gave invaluable contributions, and the papers were reviewed by CARE-India and USAID/India staff.

The main contributors to this paper were Deepika Chaudhery, Joby George, Rashmi Kukreja, Sridhar Srikantiah, Sunil Babu and Usha Kiran.

Questions and comments are welcome. For this paper, they may be addressed to sridharmfc@yahoo.com or to dora@careindia.org.

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About RACHNA

Two major projects of the Reproductive and Child Health, Nutrition and HIV/AIDS (RACHNA) program of CARE-India completed five years of work supported by funds from USAID in late 2006. The second phase of Integrated Nutrition and Health Project (INHP-II) was aimed at helping reduce child malnutrition and mortality. The rural component of the *Chayan* project primarily addressed the unmet need for spacing methods, while its urban component attempted to reduce HIV transmission among at-risk groups. Together, the projects covered 78 districts and 22 cities, spread over 10 states, and worked closely with key national programs and a spectrum of different partners. This series of working papers documents the results and lessons from these five years.

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CARE India
27, Hauz Khas Village
New Delhi - 110 016, India
Ph: 91-11-2655 4101/26969770
Fax: 91-11-2656 4081/2652 9671
e-mail: cbox@careindia.org, www.careindia.org